

**Table 1.** Scores for ChatGPT-4 before training

Content	Question Type	Question	Answers	Accuracy (investigator A)	Accuracy (investigator B)	Comprehensiveness (investigator A)	Comprehensiveness (investigator B)	Flesch Reading Ease	Flesch-Kincaid Grade Level
Prevention	Single Choice	Women should be sensitively informed that the risk of pregnancy loss is lowest in women aged: A. 20 to 25 years B. 20 to 35 years C. 30 to 40 years D. Over 40 years	B. 20 to 35 years	5	5				
	Single Choice	Women should be informed that the risk of pregnancy loss rapidly increases after the age of: A. 35 years B. 40 years C. 45 years D. 50 years	A. 35 years	3	2				
	Single Choice	Regarding the association between stress and recurrent pregnancy loss (RPL), which statement is correct? A. Stress is a direct cause of RPL B. Stress is associated with RPL, but there is no evidence that it is a direct cause C. Stress has no association with RPL D. Stress increases the chances of pregnancy	B. Stress is associated with RPL, but there is no evidence that it is a direct cause	5	5				
	Single Choice	For couples with recurrent pregnancy loss(RPL), what is maternal obesity or being significantly underweight associated with? A. Obstetric complications B. Chances of a live birth C. General health issues D. All of the above	D. All of the above	5	5				
	Single Choice	For couples with recurrent pregnancy loss(RPL), which recommendation is suggested? A. Maintain low body weight B. Maintain a healthy normal range BMI C. Gain weight D. Make no changes	B. Maintain a healthy normal range BMI	5	5				
	Single Choice	What is the relationship between excessive alcohol consumption and recurrent pregnancy loss(RPL)? A. A proven risk factor B. A possible risk factor C. No relationship D. Beneficial	B. A possible risk factor	5	5				
	Single	For couples with	B. Limit alcohol consumption	5	5				

[illegible]

increased risk of recurrent pregnancy loss.

Poor Diet: A diet lacking in essential nutrients can potentially increase the risk of recurrent pregnancy loss.

Lack of Exercise: Regular physical activity is generally beneficial for overall health and may help to reduce the risk of recurrent pregnancy loss.

Caffeine: High caffeine intake may increase the risk of miscarriage.

Stress: High levels of stress can potentially increase the risk of recurrent pregnancy loss.

Age: Women over the age of 35 have a higher risk of miscarriage.

Exposure to Environmental Toxins: Exposure to certain chemicals or radiation can increase the risk of recurrent pregnancy loss.

Underlying Health Conditions: Conditions such as PCOS, thyroid disease, uncontrolled diabetes, and certain autoimmune diseases can increase the risk of recurrent pregnancy loss.

Certain Medications: Some medications, including some used to treat psychiatric disorders, may increase the risk of recurrent pregnancy loss.

Remember, each individual's situation is unique, and these factors do not guarantee that a woman will experience recurrent pregnancy loss. It's important to discuss any concerns with a healthcare provider.

Preventing recurrent pregnancy loss (RPL) involves a comprehensive approach that addresses potential underlying health issues and lifestyle factors. Health behavior modifications can play a significant role in this context. Here are some strategies that might help:

Maintain a Healthy Weight: Both underweight and obesity can affect fertility and pregnancy outcomes. Reaching and maintaining a healthy weight through a balanced diet and regular exercise can improve the chances of a successful pregnancy.

Adopt a Balanced Diet: A diet rich in fruits, vegetables,

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How to prevent recurrent pregnancy loss through health behavior modifications?

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whole grains, lean proteins, and healthy fats can support reproductive health. Certain nutrients, such as folic acid, are particularly important before and during pregnancy.

**Limit Caffeine and Avoid Alcohol:** Excessive caffeine consumption has been linked to fertility issues, and alcohol can negatively affect pregnancy outcomes. Limiting caffeine and avoiding alcohol may reduce the risk of RPL.

**Stop Smoking:** Smoking tobacco is associated with increased risks of infertility and pregnancy loss. Quitting smoking is crucial for improving reproductive health and outcomes.

**Manage Stress:** Chronic stress can impact fertility and pregnancy. Techniques such as mindfulness, yoga, and counseling can help manage stress levels.

**Regular Medical Check-ups:** Regular visits to a healthcare provider can help manage pre-existing conditions that may affect pregnancy, such as thyroid disorders or autoimmune diseases.

**Control Chronic Conditions:** Conditions like diabetes and hypertension should be well-controlled prior to and during pregnancy to reduce the risk of RPL.

**Avoid Exposure to Toxins:** Limit exposure to environmental toxins, such as pesticides and certain chemicals, which can affect reproductive health.

**Consider Genetic Counseling:** If there's a known genetic issue contributing to RPL, genetic counseling can offer insights and options for future pregnancies.

**Follow Medical Advice for Specific Conditions:** If a specific cause for RPL has been identified (such as a uterine abnormality or a blood clotting disorder), following your healthcare provider's recommendations for treatment is essential.

Yes, advanced maternal age is considered a risk factor for recurrent pregnancy loss. As women age, the quality and quantity of their eggs decrease, which can lead to chromosomal abnormalities and increase the risk of miscarriage. It is estimated that the risk of miscarriage is about 25% for women aged 40 years and older.

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If advanced maternal age increase the risk of recurrent pregnancy loss?

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Comm on Questi on	Is recurrent pregnancy loss related to maternal weight?	Research suggests that maternal weight can indeed be a factor in recurrent pregnancy loss. Both underweight and overweight women may have an increased risk of miscarriage. In particular, obesity has been associated with a higher risk of recurrent pregnancy loss. However, it's important to note that weight is just one of many potential factors and does not guarantee recurrent pregnancy losses. Other factors can include age, certain medical conditions, genetic factors, and lifestyle habits. Therefore, for women with a history of recurrent miscarriage, a comprehensive medical evaluation is recommended to determine the specific cause and to treat and manage it accordingly according to the doctor's recommendations. Excessive alcohol consumption during pregnancy is associated with significant risks to both the mother and the developing fetus. It can increase the chances of pregnancy loss, as well as lead to a range of developmental disorders in the child, collectively known as Fetal Alcohol Spectrum Disorders (FASD). These disorders can include physical, behavioral, and learning problems that often last a lifetime.	4	5	5	4	22	15.41
Clinical Case	I am 42 years old and 10 weeks pregnant. I have excessive alcohol consumption and twice pregnancy loss before. Is there any association? Should I limit alcohol consumption during pregnancy? What is the safe upper limit for daily alcohol consumption during pregnancy?	Given your history of pregnancy loss and current pregnancy, it is strongly recommended to avoid alcohol completely. The safest approach, as advised by healthcare professionals, is to not consume any alcohol at all during pregnancy. There is no known safe upper limit for alcohol consumption during pregnancy, as the risk of harm to the baby increases with any amount of alcohol consumed.	3	3	3	3	40	13.03
Clinical Case	I am overweight and have experienced three times pregnancy loss. Is obesity a risk for my recurrent miscarriages? Should I have a weight loss ?	If you find it challenging to reduce or eliminate alcohol on your own, it might be beneficial to seek support from a healthcare provider. They can offer resources and guidance to help you through this critical period for the health and well-being of both you and your baby. I'm really sorry to hear about your experiences. Yes, obesity can be a factor in recurrent miscarriages. Research indicates that obesity can increase the risk of miscarriage, as it's associated with hormonal imbalances and other health issues like insulin resistance, which can impact fertility and pregnancy outcomes. It's important, however,	3	3	3	3	30	13.82

to approach weight loss thoughtfully and safely, especially if you're planning for pregnancy. Consulting with healthcare professionals, such as a fertility specialist, obstetrician, or a nutritionist, can provide you with personalized advice and a plan tailored to your health needs and pregnancy goals. They can guide you on a healthy weight loss journey, if necessary, and offer support for improving your chances of a successful pregnancy.

Diagnosis	Single Choice	What is the recommendation for thyroid screening in women with recurrent pregnancy loss(RPL)? A) Only if there are symptoms of thyroid disorder B) Recommended in all cases C) After two pregnancy losses D) Not recommended	B) Recommended in all cases	5	5
	Single Choice	For thyroid screening in women with recurrent pregnancy loss(RPL), which of the following are recommended? A. Thyroid-stimulating hormone (TSH). B. Thyroid peroxidase (TPO) antibodies. C. Thyroid-stimulating hormone (TSH) and Thyroxine (T4). D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.	D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.	5	5
	Single Choice	For women with recurrent pregnancy loss(RPL), when is screening recommended for antiphospholipid antibodies? A. After the first pregnancy loss. B. After two pregnancy losses. C. After three pregnancy losses. D. Only in the presence of additional risk factors for thrombophilia.	C. After three pregnancy losses	3	3
	Single Choice	For women with recurrent pregnancy loss(RPL), which of the following assessments is not recommended to improve the prognosis of the next pregnancy? A. Assessment of Polycystic Ovary Syndrome (PCOS). B. Fasting insulin and glucose testing. C. Ovarian reserve testing. D. All of the above.	C. Ovarian reserve testing.	2	2
	Single Choice	For couple with recurrent pregnancy loss(RPL), what is recommended for genetic analysis of pregnancy tissue following pregnancy loss? A)subtelomere multiplex ligation-dependent probe amplification (MLPA) B) Array-based Comparative Genomic Hybridization	B) Array-based Comparative Genomic Hybridization (array-CGH)	5	5

	(array-CGH) C) quantitative fluorescence polymerase chain reaction (QF-PCR) D) karyotyping								
	What is the preferred technique for evaluating the uterus in women with recurrent pregnancy loss(RPL)?								
Single Choice	A)Hysterosalpingography (HSG) B) Sonohysterography (SHG) C) Transvaginal 3D ultrasound (US) D) MRI	C) Transvaginal 3D ultrasound (US)	5	5					
	Which of the following is not recommended for routine testing in women with recurrent pregnancy loss(RPL)?								
Single Choice	A) Human Leukocyte Antigen (HLA) determination B) Thyroid screening C) Transvaginal 3D ultrasound (US) D) Sonohysterography (SHG)	A) Human Leukocyte Antigen (HLA) determination	5	5					
	Regarding diagnostic investigations in recurrent pregnancy loss(RPL), which statement is correct? A. They can be tailored based on medical and family history. B. Genetic analysis of pregnancy tissue is mandatory for all patients. C. Genetic analysis of pregnancy tissue is not routinely recommended. D. Parental karyotyping should be performed for all patients.								
Multiple Choice		A. They can be tailored based on medical and family history.	3	3					
	Which of the following investigations can be used for recurrent pregnancy loss(RPL) diagnosis? A. Medical and family history analysis B. Genetic analysis C. Antiphospholipid antibody screening D. Thyroid function tests								
Multiple Choice		A, B, C, D	5	5					
	The prognosis for women with recurrent pregnancy loss(RPL) is recommended to be based on which factors? A. maternal age B.maternal age at first pregnancy C. Number of previous pregnancy losses D. Complete pregnancy history								
Multiple Choice		A, C, D	5	5					
	For women with recurrent pregnancy loss(RPL), which tests are recommended? A. Thyroid function screening B. Ovarian reserve testing C. Luteal phase insufficiency testing D. Uterine anatomy assessment								
Multiple Choice		A, D	5	5					
S Comm	For couples with recurrent pregnancy loss, which imageological examinations should be taken?	For couples experiencing recurrent pregnancy loss, various imaging tests can be helpful in identifying	2	2	3	3	9	18.26	

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underlying issues. These often include:

1. Ultrasound examination: Ultrasound examination is the most commonly used examination method to evaluate the female reproductive system, which can check the shape, size, position of organs such as uterus and ovary, and can also check the development of embryos.

2. Magnetic resonance imaging (MRI) : For cases where ultrasound cannot be definitively diagnosed, further pelvic MRI can be performed to obtain more detailed image data of the uterus and accessory organs.

3. Hysteroscopy: For thin endometrium, adhesions, polyps, fibromas and other lesions that may lead to abortion, hysteroscopy can be performed for diagnosis.

4. Hysterotubal iodography: For recurrent miscarriage caused by suspected tubal obstruction or malformation, hysterotubal iodography can be performed.

5. Embryology genetic testing: Through genetic testing of aborted embryos, it can be found whether the genetic abnormality of the embryo is the cause of recurrent abortion.

The above tests need to be selected according to the specific situation of the patient and the recommendation of the doctor.

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In the diagnosis of recurrent pregnancy loss, which is the preferred imageological examination for women?

Transvaginal ultrasound is the preferred imageological examination for women in the diagnosis of recurrent pregnancy loss. This type of ultrasound can provide detailed images of the uterus and other pelvic organs.

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Is there any association between family history and recurrent pregnancy loss?

Yes, there is an association between family history and recurrent pregnancy loss (RPL). Studies have shown that individuals with a family history of RPL or certain genetic conditions may have a higher risk of experiencing recurrent pregnancy loss themselves. This can be due to genetic abnormalities, inheritable thrombophilias (blood clotting

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		disorders), hormonal imbalances, or structural abnormalities of the uterus that are sometimes genetic in nature. However, it's important to note that RPL is a multifactorial condition, and family history is just one of many factors that can contribute to it. Medical evaluation and genetic counseling can help identify if there is a significant family history contributing to RPL and guide appropriate management.									
		Genetic analysis of pregnancy tissue in the case of recurrent pregnancy loss (RPL) typically involves karyotyping of the products of conception. This analysis can identify chromosomal abnormalities, which are the most common cause of miscarriage. Additionally, parental karyotyping might also be recommended to identify potential chromosomal translocations or inversions in the parents that could lead to miscarriage.									
		In some cases, more specific genetic testing may be recommended based on the parents' medical or family history. This could include testing for specific genetic disorders or syndromes that could increase the risk of miscarriage.									
Comm on Questi on	What kinds of genetic analysis of pregnancy tissue are routinely recommended in the diagnosis of recurrent pregnancy loss(RPL)?	Next-generation sequencing (NGS) is also increasingly being used for the genetic analysis of miscarriage tissue. This method can detect not only chromosomal abnormalities but also single gene mutations. Preimplantation genetic testing (PGT) can also be used in conjunction with in vitro fertilization (IVF) to screen embryos for genetic disorders before they are implanted. This is usually considered in cases of recurrent pregnancy loss, especially when a specific genetic disorder is known or suspected to be the cause.	2	3	4		4	18	15.28		
		However, it's important to note that not all cases of RPL are due to genetic factors. Other potential causes can include hormonal imbalances, structural abnormalities in the uterus, and immune disorders. Therefore, a comprehensive evaluation is typically needed to determine the most appropriate testing and treatment options.									
Comm on	Are serum immunological tests recommended in the diagnosis of recurrent pregnancy loss? What kinds of immunological tests should be taken?	Serum immunological tests are sometimes recommended in the diagnosis of recurrent pregnancy loss. These tests help in identifying possible immune system disorders that	3	3	3		3	26	14.77		

Question

could be contributing to recurrent miscarriages.

Immunological tests may include:

**Antiphospholipid Antibody Test:** This test is used to determine if the patient has antiphospholipid syndrome, an autoimmune disorder that increases the risk of blood clots and miscarriage.

**Lupus Anticoagulant Test:** This test is used to detect the presence of an abnormal protein that interferes with the body's ability to control blood clotting.

**Anti-nuclear Antibody Test:** This test is used to detect autoimmune diseases such as lupus or rheumatoid arthritis, which can affect pregnancy.

**Natural Killer (NK) Cell Activity Test:** NK cells are a type of white blood cell that can be found in the uterus. High levels of NK cell activity can lead to complications in pregnancy, including miscarriage.

**Anti-thyroid Antibody Test:** This test is used to identify autoimmune thyroid disease, which can cause hormonal imbalances that affect pregnancy.

However, the role of these tests and treatments for immunological disorders in preventing recurrent miscarriage is still controversial, and not all doctors agree on their use. It's important to discuss with your doctor or a fertility specialist about the possible benefits and risks. In the context of recurrent pregnancy loss, thrombophilia screening can be a consideration. Thrombophilia is a condition where the blood has an increased tendency to clot, which can potentially lead to complications in pregnancy including recurrent miscarriages. However, the decision to undergo thrombophilia screening should be made on an individual basis, taking into account the patient's medical history, family history, and the number of miscarriages. Some guidelines recommend screening for

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Should women with recurrent pregnancy loss take a thrombophilia screening?

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Should women with recurrent pregnancy loss screen for metabolic or endocrinological tests? Which tests are recommended?

certain types of inherited or acquired thrombophilias in women with a history of recurrent pregnancy loss, especially when no other causes are identified. It's important for women facing recurrent pregnancy loss to consult with their healthcare provider to discuss the potential benefits and limitations of thrombophilia screening in their specific case.

Women with recurrent pregnancy loss (RPL) often undergo comprehensive evaluations to identify any underlying causes that could be addressed to improve outcomes in future pregnancies. It's common for healthcare providers to recommend both metabolic and endocrinological screenings as part of the evaluation process, considering that issues in these areas can significantly impact pregnancy outcomes.

Metabolic screenings might include:

Thyroid function tests: Imbalances in thyroid hormones can affect pregnancy outcomes. Both hypothyroidism and hyperthyroidism are linked to increased risks of pregnancy loss.

Fasting glucose and insulin levels: To check for signs of diabetes or insulin resistance, as both conditions can increase the risk of RPL.

Lipid profile: Although less commonly associated with RPL, abnormalities in lipid metabolism might have implications in some cases.

Endocrinological screenings could involve:

Prolactin levels: Elevated prolactin can interfere with ovulation, leading to difficulties in maintaining a pregnancy.

Luteal phase testing: Progesterone levels in the luteal phase of the menstrual cycle (after ovulation and before the period starts) can indicate if there's adequate hormonal support for early pregnancy.

Androgen levels: Elevated levels of androgens (such as testosterone) can be a sign of conditions like polycystic ovary syndrome (PCOS), which can affect fertility and pregnancy maintenance.

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Should women with uterine abnormalities and recurrent pregnancy loss be treated with surgery?

specific conditions, such as antiphospholipid syndrome (APS), a combination of low-dose aspirin and heparin (usually low molecular weight heparin) is recommended because it has been shown to improve pregnancy outcomes. This recommendation comes from clinical guidelines and research findings that suggest this combination therapy can reduce the risk of further pregnancy losses in women with APS, a condition associated with an increased risk of blood clots.

However, for women without such underlying conditions, the benefits of heparin or aspirin may not be as clear, and treatment should be individualized. It's essential to consult with a healthcare provider specializing in reproductive medicine or maternal-fetal medicine to assess the specific causes of RPL and to determine the most appropriate treatment plan.

It's also worth noting that ongoing research continues to explore the effectiveness and safety of these and other interventions in managing RPL, so recommendations may evolve as new evidence emerges. The decision to treat women with uterine abnormalities and recurrent pregnancy loss with surgery depends on several factors, including the type of uterine abnormality, the severity of the condition, the woman's reproductive history, and overall health. Common uterine abnormalities that might lead to recurrent pregnancy loss include uterine septum, fibroids, polyps, and uterine malformations such as bicornuate or unicornuate uterus.

For some specific types of uterine anomalies, such as longitudinal uterine septum, surgery may be recommended to improve the prognosis of the pregnancy. However, for other types of anomalies, surgery may not be recommended or its effectiveness may be controversial.

It's important for women facing these challenges to discuss their individual case with their healthcare provider, who can offer the most personalized advice based on their medical

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## Clinical Case

I am 12 weeks pregnant and have been diagnosed with recurrent pregnancy loss(RPL). In my thyroid function tests, the TSH level was within the normal reference range. But my thyroid antibody is positive. How should I be followed during pregnancy?

history and the latest research.

When faced with recurrent pregnancy loss (RPL) and positive thyroid antibodies, the most important thing to do during pregnancy is to work closely with your medical team. Here are some suggestions, but keep in mind that specific medical advice should be provided by your doctor based on your specific situation:

**Regular checkups:** Stay in close communication with your doctor and have regular checkups and evaluations as necessary to monitor your health and the progression of your pregnancy.

**Thyroid function monitoring:** Even if your TSH level is within the normal range, a positive thyroid antibody may mean you are at potential risk for abnormal thyroid function. Your doctor may recommend regular checks of your thyroid function to ensure that thyroid hormone levels remain within the ideal range during pregnancy.

**Medication:** If needed, your doctor may prescribe thyroid medication to help regulate your thyroid hormone levels, especially if there are any changes in your thyroid function.

**Nutrition and lifestyle:** Follow a well-balanced diet plan to ensure that you get adequate iodine intake (unless otherwise directed by your doctor), as well as other nutrients that are beneficial to your health during pregnancy. Maintain a moderate level of physical activity, reduce stress and try to maintain good sleep habits.

**Specialist Consultation:** You may need additional consultation with an endocrinologist or a high-risk pregnancy specialist. These specialists can provide more expert advice and help you develop a personalised treatment plan.

**Emotional support:** Facing RPL can be emotionally stressful. Consider seeking help from a mental health professional or joining a relevant support group where talking to others going through similar situations can provide emotional support and practical advice.

Please remember that this advice is intended as general guidance only. Your healthcare team understands your specific situation and will be able to provide personalised

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advice that is best suited to you.

Positive thyroid antibodies may be associated with recurrent pregnancy loss. Some studies have shown that women with positive thyroid antibodies have a higher risk of miscarriage even if their thyroid function is normal.

However, there is no clear consensus in the medical community as to whether levothyroxine should be used for treatment during pregnancy. Some studies have suggested that treatment with levothyroxine during pregnancy, even in women with normal TSH levels and positive thyroid antibodies, may help reduce the risk of miscarriage. However, there are also studies that have not found this treatment to be significantly effective in improving pregnancy outcomes.

Therefore, it is best to discuss in detail with your doctor about whether you should be treated with levothyroxine during pregnancy and make a decision based on your specific situation.

Congratulations on your pregnancy, and I'm here to help with your query. When it comes to pregnancy, especially with a history of recurrent pregnancy loss, it's crucial to approach any changes to your diet or supplement regimen with care and under the guidance of a healthcare professional.

Generally, prenatal vitamins are recommended for pregnant individuals to support both their health and the health of their baby. These supplements typically contain folic acid, iron, calcium, and DHA, among other nutrients important for pregnancy. Folic acid is particularly emphasized due to its role in preventing neural tube defects in the developing fetus.

Given your specific medical history, it's essential to consult with your healthcare provider before starting any new multivitamin or supplement. They can offer personalized advice based on your health status, nutritional needs, and

## Clinical Case

I have been diagnosed with recurrent pregnancy loss(RPL). And I am pregnant again now. My thyroid function tests, and the TSH level was within the normal reference range. But my thyroid antibody is positive. Should I be treated with levothyroxine during pregnancy?

## Clinical Case

I am 12 weeks pregnant and want to use multivitamin supplements. I have been diagnosed with recurrent pregnancy loss. Is it safe for me? What multivitamin supplements should I take?

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any specific concerns related to your pregnancy.

It's also important to focus on a balanced diet that includes a variety of nutrients from food sources, as this is the best way to support your health and your baby's development. Your healthcare provider may also suggest specific guidelines or additional supplements based on your individual needs and any nutritional gaps identified.

Remember, while supplements can be beneficial, the priority is to ensure they are safe and appropriate for your particular situation, especially considering your history of recurrent pregnancy loss. Your healthcare team is your best resource for advice tailored to your unique health needs.

Table 2. Scores for Claude-3 before training

Content	Question Type		Answers	Accuracy (investigator A)	Accuracy (investigator B)	Comprehensiveness (investigator A)	Comprehensiveness (investigator B)	Flesch Reading Ease	Flesch-Kincaid Grade Level
	Question								
Prevention	Single Choice	Women should be sensitively informed that the risk of pregnancy loss is lowest in women aged: A. 20 to 25 years B. 20 to 35 years C. 30 to 40 years D. Over 40 years	B	5	5				

Single Choice	Women should be informed that the risk of pregnancy loss rapidly increases after the age of: A. 35 years B. 40 years C. 45 years D. 50 years	B	5	5
Single Choice	Regarding the association between stress and recurrent pregnancy loss (RPL), which statement is correct? A. Stress is a direct cause of RPL B. Stress is associated with RPL, but there is no evidence that it is a direct cause C. Stress has no association with RPL D. Stress increases the chances of pregnancy	B	5	5
Single Choice	For couples with recurrent pregnancy loss(RPL), what is maternal obesity or being significantly underweight associated with? A. Obstetric complications B. Chances of a live birth C. General health issues D. All of the above	D	5	5
Single Choice	For couples with recurrent pregnancy loss(RPL), which recommendation is suggested? A. Maintain low body weight B. Maintain a healthy normal range BMI C. Gain weight D. Make no changes	B	5	5
Single Choice	What is the relationship between excessive alcohol consumption and recurrent pregnancy loss(RPL)? A. A proven risk factor B. A possible risk factor C. No relationship D. Beneficial	B	5	5
Single Choice	For couples with recurrent pregnancy loss(RPL), what is the correct advice regarding alcohol consumption? A. Increase alcohol intake B. Limit alcohol consumption C. Consume specific types of alcohol D. No advice	B	5	5
Multiple Choice	Which statements are correct regarding age and the risk of pregnancy loss? A. The risk of pregnancy loss is lowest in women aged 20 to 35 years B. The risk of pregnancy loss rapidly increases after the age of 40 C. Stress is a direct cause of recurrent pregnancy loss(RPL) D. There is no evidence that stress is a direct cause of pregnancy loss	ABD	5	5
Multiple Choice	Regarding alcohol consumption and recurrent pregnancy loss(RPL), which statements are correct? A. Excessive alcohol consumption is a possible risk factor for pregnancy loss B. Excessive alcohol consumption is a proven risk factor for fetal problems C. Couples with RPL do not need to limit their alcohol consumption D.	AD	4	4

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Couples with RPL should limit their alcohol consumption

Recurrent Pregnancy Loss (RPL), also known as recurrent abortion or recurrent spontaneous abortion, is:

- 1. Two or more spontaneous miscarriages in a row (some are defined as three or more).
  - 2. Miscarriage occurs before 20 weeks of gestation (some definitions are before 24 weeks).
  - 3. Aborted fetuses usually weigh less than 500 grams.
  - 4. These abortions usually refer to spontaneous abortions that occur after implantation of the embryo, excluding ectopic pregnancy, mole and other special cases.
- It is important to note that the definition of RPL may vary slightly between different medical guidelines and studies. Some guidelines define RPL as three or more consecutive spontaneous miscarriages, while others include two or more consecutive miscarriages. But the general consensus is that RPL reflects a persistent pattern of pregnancy loss, suggesting that some specific cause or risk factor may be present.

RPL affects about 1-5% of couples of reproductive age. It differs from isolated miscarriages, which are more common in pregnant women (about 10-20%) and are usually sporadic and not preventable. In contrast, RPL is more likely to indicate that the woman or both partners have some reproductive health problem that requires further medical evaluation and intervention.

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Question

What is the definition of recurrent pregnancy loss?

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Recurrent pregnancy loss, defined as two or more consecutive miscarriages, can be influenced by various behavioral and lifestyle factors. Here are some of the key factors that may contribute to recurrent pregnancy loss:

Maternal age: Advanced maternal age, typically over 35 years, is associated with an increased risk of chromosomal abnormalities and other factors that can lead to recurrent miscarriages.

Smoking: Smoking during pregnancy has been linked to an increased risk of miscarriage, placental complications, and other adverse pregnancy outcomes.

Alcohol consumption: Excessive alcohol consumption during pregnancy can increase the risk of miscarriage and other pregnancy complications.

Obesity and being overweight: Being obese or overweight before and during pregnancy has been associated with an increased risk of recurrent miscarriages, as well as other pregnancy complications.

Stress and anxiety: High levels of stress and anxiety during pregnancy have been linked to an increased risk of miscarriage, although the exact mechanisms are not fully understood.

Exposure to environmental toxins: Exposure to certain environmental toxins, such as lead, mercury, and pesticides, has been associated with an increased risk of miscarriage and other pregnancy complications.

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Question

What are the behavioral and lifestyle factors in recurrent pregnancy loss?

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Caffeine intake: Excessive caffeine consumption during pregnancy has been linked to an increased risk of miscarriage, although the evidence is not conclusive.

Lack of prenatal care: Inadequate prenatal care and monitoring can make it difficult to identify and address potential risk factors for recurrent pregnancy loss.

Certain medical conditions: Underlying medical conditions such as uncontrolled diabetes, thyroid disorders, autoimmune disorders, and uterine abnormalities can increase the risk of recurrent miscarriages.

It's important to note that in many cases, the cause of recurrent pregnancy loss may be unknown or multifactorial. If you are experiencing recurrent miscarriages, it is recommended to consult with a healthcare professional for a thorough evaluation and personalized advice on lifestyle modifications and treatment options.

Certain health behavior modifications can play a significant role in reducing the risk of recurrent pregnancy loss (RPL). Here are some key lifestyle changes that couples can make:

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Question

How to prevent recurrent pregnancy loss through health behavior modifications?

1. Achieve a healthy weight:

- Maintain a body mass index (BMI) between 18.5 and 24.9.
- Engage in regular physical activity (at least 30 minutes per day, most days of the week).
- Follow a balanced diet with an appropriate caloric intake.

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2. Quit smoking:

- Smoking is associated with an increased risk of miscarriage and other adverse pregnancy outcomes.
- Seek support from healthcare providers, support groups, or nicotine replacement therapy to quit smoking.

3. Avoid alcohol:

- Abstain from alcohol consumption during preconception and throughout pregnancy.
- Heavy alcohol use has been linked to an increased risk of miscarriage.

4. Limit caffeine intake:

- Restrict caffeine consumption to less than 200mg per day (approximately 2 cups of coffee).
- High caffeine intake has been associated with an increased risk of miscarriage.

5. Manage stress:

- Practice stress-reduction techniques like meditation, deep breathing, or yoga.
- Engage in regular exercise, which can help reduce stress and improve overall health.
- Seek counseling or support from mental health professionals if needed.

6. Optimize nutrition:

- Consume a diet rich in fruits, vegetables, whole grains, lean proteins, and healthy fats.
- Ensure adequate intake of folic acid (400-800 mcg per day) through diet or supplementation.
- Consider taking a prenatal vitamin with iron, calcium, and vitamin D.

7. Manage chronic conditions:

- Work with healthcare providers to optimize the management of chronic conditions like diabetes, thyroid disorders, or autoimmune diseases.
- Maintain good glycemic control in diabetes and monitor thyroid function regularly.

8. Practice good sleep hygiene:

- Aim for 7-9 hours of sleep per night.
- Establish a consistent sleep schedule and create a relaxing bedtime routine.
- Avoid electronic devices and stimulating activities close to bedtime.

9. Foster emotional well-being:

- Seek support from loved ones, friends, or support groups.
- Engage in activities that bring joy and relaxation.
- Consider couples counseling to navigate the emotional challenges of RPL.

It's important to note that while these health behavior modifications can reduce the risk of RPL, they may not prevent all cases. Couples should work closely with their healthcare provider to develop a comprehensive plan that addresses their specific needs and risk factors. Additionally, it's crucial to approach lifestyle changes gradually and with self-compassion, as the journey to a successful pregnancy can be emotionally challenging. Yes, advanced maternal age is a significant risk factor for recurrent pregnancy loss (RPL). Here's how age affects the risk of RPL:

1. Decreased egg quality

As women age, the quality of their eggs gradually declines and the risk of chromosomal abnormalities increases.

Common  
Question

If advanced maternal age increase the risk of recurrent pregnancy loss?

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Embryos formed by fertilization of abnormal eggs often fail to survive, leading to early miscarriage. The risk is significantly higher in women over 35 years of age, and even higher in women over 40 years of age.

#### 2. Deterioration of basic health status

- Older women are more likely to suffer from chronic diseases such as high blood pressure and diabetes.
- These diseases may affect embryo development and pregnancy maintenance, increasing the risk of miscarriage.

Comorbidities such as high blood pressure during pregnancy are also more common, further increasing the risk of adverse pregnancy outcomes.

#### 3. Aging of reproductive system

- The female reproductive system deteriorates with age, such as thinning of the endometrium and reduced blood supply.
- This can affect embryo implantation and early development, leading to miscarriage.
- Problems such as fibroids and endometrial polyps are also more common in older women.

#### 4. Immune system changes

A woman's immune system changes with age, sometimes rejecting the embryo.

Some immune-related factors such as antiphospholipid syndrome are more common in older women.

- These factors may interfere with embryonic development, leading to RPL.

It is important to note that although advanced age is a risk factor for RPL, not all older women will



experience RPL. Individual differences are great, and some older women can still get pregnant and give birth. At the same time, the occurrence of RPL is often the result of the combined action of many factors, and the simple age factor can not completely explain RPL.

For older women, especially those with a history of RPL, some measures should be taken under the guidance of a doctor, such as:

- Early pre-pregnancy screening to assess fertility and associated risk factors.
- Genetic screening, if necessary, to reduce the risk of fetal chromosomal abnormalities.
- Optimize your physical condition by improving your lifestyle and managing chronic diseases.
- Regular prenatal check-ups and close monitoring of pregnancy progress.

Overall, although advanced age is a risk factor for RPL, many older women can still achieve good pregnancy outcomes with appropriate prevention and interventions. The key is to develop a personalized management plan for your specific situation under the guidance of a medical professional. At the same time, we should maintain an optimistic and positive attitude to provide a good environment for our physical and mental health.

Yes, maternal weight is associated with the risk of recurrent pregnancy loss (RPL). Both underweight and overweight/obese women have an increased risk of RPL compared to women with a normal body mass index (BMI). Here's how maternal weight affects the risk of RPL:

1. Underweight (BMI < 18.5):

Common Question	Is recurrent pregnancy loss related to maternal weight?	5	5	5	5	33	14
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- Underweight women may have hormonal imbalances that can interfere with ovulation and implantation.
- They may have inadequate nutrient reserves to support early pregnancy development.
- Underweight women are at a higher risk of preterm birth and low birth weight babies.

2. Overweight (BMI 25-29.9) and Obesity (BMI  $\geq$  30):

- Obesity is associated with insulin resistance, which can lead to hormonal imbalances and impaired ovulation.
- Obese women have a higher risk of aneuploidy (chromosomal abnormalities) in the embryo, which is a major cause of miscarriage.
- Obesity is associated with chronic inflammation and oxidative stress, which can adversely affect embryo development and implantation.
- Obese women are more likely to have pre-existing medical conditions like diabetes, hypertension, or thyroid disorders, which can complicate pregnancy.

3. Gestational weight gain: Excessive weight gain during pregnancy, particularly in overweight or obese women, can further increase the risk of pregnancy complications and miscarriage.

4. Adipose tissue and hormones: Adipose tissue (body fat) is metabolically active and secretes hormones and cytokines that can influence reproductive function. Imbalances in these hormones, such as leptin and adiponectin, may contribute to the increased risk of RPL in women with abnormal BMIs.

To reduce the risk of RPL related to maternal weight, women should aim to achieve a healthy BMI (18.5-

24.9) before conception through a balanced diet and regular exercise. For overweight or obese women, even a modest weight loss of 5-10% can improve reproductive outcomes.

During pregnancy, women should follow guidelines for healthy gestational weight gain based on their pre-pregnancy BMI. Regular prenatal care and monitoring can help identify and manage any weight-related complications.

It's important to note that while abnormal maternal weight is a risk factor for RPL, it is not the only factor. Women with a normal BMI can still experience RPL due to other causes. Consultation with a healthcare provider is essential for personalized risk assessment and management.

Congratulations on your pregnancy! However, I must strongly advise you to completely abstain from alcohol consumption during your pregnancy. There is no known safe amount of alcohol to consume while pregnant.

Clinical  
Case

I am 42 years old and 10 weeks pregnant. I have excessive alcohol consumption and twice pregnancy loss before. Is there any association? Should I limit alcohol consumption during pregnancy? What is the safe upper limit for daily alcohol consumption during pregnancy?

Alcohol consumption during pregnancy is associated with an increased risk of miscarriage, stillbirth, and a range of lifelong physical, behavioral, and intellectual disabilities known as Fetal Alcohol Spectrum Disorders (FASDs). The more alcohol you consume, the greater the risk to your developing baby.

Your age (42 years) and history of two prior pregnancy losses already put you at a higher risk for miscarriage. Excessive alcohol consumption can further increase this risk. Alcohol can interfere with the development of the fetus, particularly in the early stages of pregnancy when many women may not yet

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realize they are pregnant.

The safest approach is to avoid alcohol entirely during pregnancy and while trying to conceive. If you are struggling with alcohol dependency, please reach out to your healthcare provider for support and resources to help you quit. They can also closely monitor your pregnancy and provide guidance to help reduce your risk of pregnancy complications.

Remember, it's never too late to stop drinking alcohol during pregnancy. Every day that you don't drink alcohol is a day that you are supporting your baby's health and development.

In summary:

- There is no safe amount of alcohol to consume during pregnancy.
- Alcohol consumption is associated with miscarriage, stillbirth, and fetal alcohol spectrum disorders.
- Your age and history of pregnancy loss already increase your risk of miscarriage.
- The best approach is to completely abstain from alcohol during pregnancy.
- Seek support from your healthcare provider if you need help quitting alcohol.

Wishing you a healthy pregnancy and all the best for you and your growing family!

Yes, obesity can increase the risk of recurrent miscarriages. Here are a few key points about the connection between obesity and pregnancy loss:

Obesity is associated with higher risks of miscarriage, especially in the first trimester. Studies suggest obese women may have up to a doubled risk of

Clinical  
Case

I am overweight and have experienced three times pregnancy loss. Is obesity a risk for my recurrent miscarriages? Should I have a weight loss ?

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miscarriage compared to women of normal weight.

Obesity can contribute to hormonal imbalances and metabolic issues that can negatively impact implantation and early placental development, increasing miscarriage risk.

Women with obesity are more likely to have conditions like polycystic ovary syndrome (PCOS) which is linked to higher miscarriage rates.

Obesity raises the risk of other pregnancy complications like gestational diabetes and preeclampsia, which can indirectly increase miscarriage chances.

Given your history of recurrent losses, achieving a healthier pre-pregnancy weight through diet and exercise is generally recommended. Even a 5-10% reduction in weight can improve fertility and pregnancy outcomes in obese women.

However, it's best to discuss an appropriate weight loss plan with your OB/GYN or a nutritionist, as rapid or extreme weight loss can sometimes have negative effects. They can guide you on safe, sustainable lifestyle changes to optimize your weight for a future healthy pregnancy. Don't hesitate to seek medical support.

Diagnosis	Single Choice	What is the recommendation for thyroid screening in women with recurrent pregnancy loss(RPL)? A) Only if there are symptoms of thyroid disorder B) Recommended in all cases C) After two pregnancy losses D) Not recommended	B	5	5
	Single	For thyroid screening in women with recurrent pregnancy loss(RPL), which of the following are	D	5	5

Choice	recommended? A. Thyroid-stimulating hormone (TSH). B. Thyroid peroxidase (TPO) antibodies. C. Thyroid-stimulating hormone (TSH) and Thyroxine (T4). D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.			
Single Choice	For women with recurrent pregnancy loss(RPL), when is screening recommended for antiphospholipid antibodies? A. After the first pregnancy loss. B. After two pregnancy losses. C. After three pregnancy losses. D. Only in the presence of additional risk factors for thrombophilia.	B	5	5
Single Choice	For women with recurrent pregnancy loss(RPL), which of the following assessments is not recommended to improve the prognosis of the next pregnancy? A. Assessment of Polycystic Ovary Syndrome (PCOS). B. Fasting insulin and glucose testing. C. Ovarian reserve testing. D. All of the above.	C	2	2
Single Choice	For couple with recurrent pregnancy loss(RPL), what is recommended for genetic analysis of pregnancy tissue following pregnancy loss? A)subtelomere multiplex ligation-dependent probe amplification (MLPA) B) Array-based Comparative Genomic Hybridization (array-CGH) C) quantitative fluorescence polymerase chain reaction (QF-PCR) D) karyotyping	B	5	5
Single Choice	What is the preferred technique for evaluating the uterus in women with recurrent pregnancy loss(RPL)? A)Hysterosalpingography (HSG) B) Sonohysterography (SHG) C) Transvaginal 3D ultrasound (US) D) MRI	C	5	5
Single Choice	Which of the following is not recommended for routine testing in women with recurrent pregnancy loss(RPL)? A) Human Leukocyte Antigen (HLA) determination B) Thyroid screening C) Transvaginal 3D ultrasound (US) D) Sonohysterography (SHG)	A	5	5

Multiple Choice	Regarding diagnostic investigations in recurrent pregnancy loss(RPL), which statement is correct? A. They can be tailored based on medical and family history. B. Genetic analysis of pregnancy tissue is mandatory for all patients. C. Genetic analysis of pregnancy tissue is not routinely recommended. D. Parental karyotyping should be performed for all patients.	A	3	3					
	Which of the following investigations can be used for recurrent pregnancy loss(RPL) diagnosis? A. Medical and family history analysis B. Genetic analysis C. Antiphospholipid antibody screening D. Thyroid function tests	ABCD	5	5					
	The prognosis for women with recurrent pregnancy loss(RPL) is recommended to be based on which factors? A. maternal age B.maternal age at first pregnancy C. Number of previous pregnancy losses D. Complete pregnancy history	ACD	5	5					
	For women with recurrent pregnancy loss(RPL), which tests are recommended? A. Thyroid function screening B. Ovarian reserve testing C. Luteal phase insufficiency testing D. Uterine anatomy assessment	AD	5	5					
Short Essay	Common Question	For couples experiencing recurrent pregnancy loss (RPL), several imaging examinations can help identify potential anatomical causes. The most common imageological examinations recommended include:							
		1. Transvaginal ultrasound: - This is usually the first-line imaging study for evaluating the uterus and ovaries. - It can detect uterine abnormalities like fibroids, polyps, or adenomyosis. - It can also assess the thickness and appearance of the endometrium (uterine lining). - Transvaginal ultrasound is non-invasive, widely available, and does not involve radiation exposure.	4	4	4	5	13	14.99	
Case		2. Hysterosalpingogram (HSG): - HSG is an X-ray procedure that involves injecting contrast dye into the uterus and fallopian tubes.							

- It can help identify uterine anomalies like a septate uterus or bicornuate uterus.
- It can also assess tubal patency (openness) and detect blockages or abnormalities in the fallopian tubes.
- HSG involves a small amount of radiation exposure.

### 3. Saline infusion sonohysterography (SIS) or hysteroscopy:

- SIS involves injecting sterile saline into the uterus during a transvaginal ultrasound to better visualize the uterine cavity.
- Hysteroscopy is a procedure that involves inserting a thin, lighted camera into the uterus to directly visualize the uterine cavity.
- Both procedures can help detect intrauterine adhesions, polyps, or fibroids that may be missed on a standard ultrasound.
- Hysteroscopy also allows for concurrent treatment of some abnormalities, such as removing a septum or adhesions.

### 4. Magnetic Resonance Imaging (MRI):

- MRI is not routinely used in the evaluation of RPL but may be recommended in certain cases.
- It can provide detailed images of the uterus and help diagnose adenomyosis or other complex uterine anomalies.
- MRI does not involve radiation exposure but is more expensive and less widely available than ultrasound.

The specific tests recommended will depend on the couple's medical history, physical examination findings, and the healthcare provider's assessment. In some cases, multiple imaging modalities may be used to thoroughly evaluate the uterus and identify any potential anatomical causes of RPL.

It's important for couples to work with a provider experienced in managing RPL, such as a reproductive



<p>Comm on Questi on</p>	<p>In the diagnosis of recurrent pregnancy loss, which is the preferred imageological examination for women?</p>	<p>endocrinologist or maternal-fetal medicine specialist, to ensure a comprehensive evaluation and personalized treatment plan.</p>	
		<p>In the diagnosis of recurrent pregnancy loss, the preferred imaging examination for women is usually transvaginal ultrasound.</p>	
		<p>Transvaginal ultrasound, also known as endovaginal ultrasound, is the preferred imaging modality for several reasons:</p>	
		<p>Detailed visualization: Transvaginal ultrasound provides a clear and detailed visualization of the uterus, ovaries, and surrounding structures. It allows for a thorough evaluation of the uterine cavity, endometrium, and any potential structural abnormalities that may contribute to recurrent pregnancy loss.</p>	
		<p>Early pregnancy assessment: Transvaginal ultrasound is highly sensitive in detecting early pregnancy and can help diagnose conditions such as ectopic pregnancy, gestational trophoblastic disease, or other abnormalities that may lead to pregnancy loss.</p>	<p>3 4 4 4 0 22.44</p>
		<p>Non-invasive: Transvaginal ultrasound is a non-invasive imaging technique, making it a safe and convenient option for evaluating women with recurrent pregnancy loss.</p>	
		<p>Evaluation of uterine anomalies: Transvaginal ultrasound can effectively detect uterine anomalies, such as uterine septum, bicornuate uterus, or fibroids, which may contribute to recurrent pregnancy loss.</p>	
		<p>Assessment of ovarian function: Transvaginal ultrasound can also assess ovarian function, which is important in evaluating potential causes of recurrent pregnancy loss related to ovulatory disorders or polycystic ovary syndrome (PCOS).</p>	
		<p>Other imaging modalities, such as hysterosalpingography</p>	

(HSG) or hysteroscopy, may be used in specific cases to further evaluate the uterine cavity or fallopian tubes if indicated by the transvaginal ultrasound findings or clinical history.

It's important to note that the evaluation of recurrent pregnancy loss often involves a comprehensive approach, including a detailed medical history, physical examination, and various laboratory tests in addition to imaging studies. Yes, there is an association between family history and recurrent pregnancy loss (RPL). Certain inherited factors can increase the risk of RPL, and having a family history of miscarriages may suggest an underlying genetic predisposition. Here are some ways family history can be associated with RPL:

1. Chromosomal abnormalities:
  - Balanced translocations, where portions of chromosomes are rearranged without any genetic material being lost or gained, can run in families.
  - Carriers of balanced translocations are at a higher risk of producing embryos with unbalanced translocations, which can lead to miscarriage.
  - If a couple with RPL has a family history of miscarriages, chromosomal analysis (karyotyping) of both partners may be recommended.

2. Inherited thrombophilias:
  - Thrombophilias are blood clotting disorders that can increase the risk of miscarriage by causing blood clots in the placental vessels.
  - Some thrombophilias, such as Factor V Leiden mutation or Prothrombin G20210A mutation, can be inherited and run in families.
  - If a couple has a family history of thrombophilias or recurrent miscarriages, thrombophilia screening may be advised.

3. Other genetic disorders:
  - Certain single-gene disorders, like cystic fibrosis or

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Is there any association between family history and recurrent pregnancy loss?

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sickle cell anemia, can increase the risk of miscarriage if both partners are carriers.

- If a couple has a family history of genetic disorders or recurrent miscarriages, genetic counseling and carrier screening may be recommended.

#### 4. Polygenic risk factors:

- Some studies suggest that RPL may have a polygenic component, meaning that multiple genes each contribute a small effect to the overall risk.

- Women with a family history of RPL may have inherited a combination of these risk-associated gene variants, increasing their susceptibility to miscarriages.

#### 5. Shared environmental and lifestyle factors:

- While not directly genetic, families may share certain environmental exposures or lifestyle habits that can influence miscarriage risk.

- For example, if a family has a history of smoking, obesity, or exposure to certain toxins, these factors could contribute to an increased risk of RPL.

It's important to note that having a family history of RPL does not guarantee that an individual will experience miscarriages. Many factors, both genetic and non-genetic, can influence the risk of RPL, and each couple's situation is unique.

If a couple with RPL has a concerning family history, their healthcare provider may recommend additional genetic testing or counseling to identify any potential inherited risk factors. This information can help guide personalized management and treatment plans to optimize the chances of a successful pregnancy.

For couples experiencing recurrent pregnancy loss (RPL), several genetic analyses may be recommended to identify potential inherited factors contributing to their miscarriages. The specific tests ordered will depend on the couple's medical and family history, as well as the healthcare provider's assessment. Routinely recommended genetic

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What kinds of genetic analysis of pregnancy tissue are routinely recommended in the diagnosis of recurrent pregnancy loss(RPL)?

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analyses for RPL include:

1. Karyotyping (chromosomal analysis):

- This test analyzes the number and structure of chromosomes in a sample of blood cells.
- It can identify balanced translocations, inversions, or other chromosomal rearrangements in either partner that may increase the risk of miscarriage.
- If a chromosomal abnormality is found, additional testing or genetic counseling may be recommended.

2. Thrombophilia screening:

- This test looks for inherited blood clotting disorders that can increase the risk of miscarriage.
- Common thrombophilias tested include Factor V Leiden mutation, Prothrombin G20210A mutation, and deficiencies of proteins C and S or antithrombin III.
- If a thrombophilia is identified, anticoagulant therapy may be recommended in subsequent pregnancies.

3. Genetic carrier screening:

- This test determines if either partner is a carrier for certain recessive genetic disorders that could affect pregnancy outcomes.
- Common conditions screened for include cystic fibrosis, sickle cell anemia, thalassemia, and Tay-Sachs disease.
- If both partners are found to be carriers of the same disorder, additional testing or genetic counseling may be advised.

4. Preimplantation Genetic Testing for Aneuploidy (PGT-A):

- This test is performed on embryos created through in vitro fertilization (IVF) before they are transferred to the uterus.
- It screens for aneuploidy (abnormal number of chromosomes) in the embryos, which is a common cause of miscarriage.
- PGT-A can help select chromosomally normal embryos for transfer, potentially reducing the risk of miscarriage in

subsequent pregnancies.

5. Products of Conception (POC) testing:

- If a couple experiences a miscarriage, genetic testing of the POC (fetal tissue) may be recommended.
- This test can identify chromosomal abnormalities in the miscarried fetus, which can help determine if the miscarriage was due to a random genetic error or a potential inherited factor.
- POC testing can guide decisions about further genetic testing or management in subsequent pregnancies.

It's important to note that not all genetic factors contributing to RPL can be identified through currently available tests. The decision to pursue genetic testing should be made in consultation with a healthcare provider or genetic counselor who can explain the benefits, limitations, and potential implications of each test.

In addition to genetic analyses, couples with RPL may also benefit from a comprehensive evaluation of other potential causes, such as hormonal imbalances, uterine anomalies, or immune factors. A personalized approach to testing and treatment, guided by a specialist in RPL, can help optimize the chances of a successful pregnancy.

Serum immunological tests are often included in the evaluation of women with recurrent pregnancy loss (RPL), as certain immunological factors may contribute to miscarriages. However, the role of immunological testing in RPL remains controversial, and the specific tests recommended may vary based on the individual case and the healthcare provider's assessment. Here are some immunological tests that may be considered in women with RPL:

1. Antiphospholipid antibody (APA) testing:

- This is the most widely accepted immunological test in the evaluation of RPL.
- APAs, including anticardiolipin antibodies(aCL), lupus anticoagulant(LA), and beta-2 glycoprotein I

Common  
Question

Are serum immunological tests recommended in the diagnosis of recurrent pregnancy loss? What kinds of immunological tests should be taken?

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antibodies( $\alpha\beta$ 2GPI), can cause blood clots and increase the risk of miscarriage.

- If APAs are detected, treatment with aspirin and/or heparin may be recommended in subsequent pregnancies.

#### 2. Antinuclear antibody (ANA) testing:

- ANAs are associated with autoimmune disorders like systemic lupus erythematosus (SLE), which can increase the risk of miscarriage.

- If ANAs are detected, further evaluation for SLE or other autoimmune conditions may be warranted.

#### 3. Thyroid antibody testing:

- Antithyroid peroxidase (anti-TPO) and antithyroglobulin (anti-TG) antibodies are markers of autoimmune thyroid disease.

- Some studies suggest an association between thyroid autoimmunity and RPL, even in women with normal thyroid function.

- If thyroid antibodies are detected, monitoring of thyroid function and treatment with levothyroxine may be considered.

#### 4. Natural Killer (NK) cell testing:

- NK cells are a type of immune cell that may play a role in implantation and early pregnancy.

- Some studies suggest that high levels of NK cells in the uterus or peripheral blood may be associated with RPL.

- However, the utility of NK cell testing remains controversial, and standardized testing and treatment protocols are lacking.

#### 5. Human Leukocyte Antigen (HLA) testing:

- HLA compatibility between partners has been proposed as a potential factor in RPL, with the theory that similarity in HLA genes may lead to inadequate immune recognition of the pregnancy.

- However, the role of HLA testing in RPL is highly controversial, and most professional societies do not recommend routine HLA testing or treatment based on

Comm  
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Should women with recurrent pregnancy loss take a thrombophilia screening?

HLA results.

It's important to note that the evidence supporting the use of many immunological tests in RPL is limited, and there is ongoing debate about their clinical utility. Some tests, like NK cell and HLA testing, are not routinely recommended due to lack of strong evidence and standardized protocols.

The decision to pursue immunological testing should be made in consultation with a healthcare provider experienced in managing RPL. Interpretation of test results requires careful consideration of the clinical context and the potential risks and benefits of any proposed treatments.

In addition to immunological testing, a comprehensive evaluation of RPL should also consider other potential causes, such as genetic, anatomic, endocrine, and lifestyle factors. A personalized approach to testing and treatment, guided by a specialist in RPL, can help optimize the chances of a successful pregnancy.

Thrombophilia screening is often included in the evaluation of women with recurrent pregnancy loss (RPL), as certain inherited or acquired thrombophilias can increase the risk of miscarriage by causing blood clots in the placental vessels. However, the role of thrombophilia testing in RPL remains controversial, and the specific tests recommended may vary based on the individual case and the healthcare provider's assessment.

The most commonly recommended thrombophilia tests in women with RPL include:

1. Factor V Leiden (FVL) mutation: This is the most common inherited thrombophilia, causing an increased risk of blood clots.

2. Prothrombin G20210A mutation: This mutation in the prothrombin gene increases the risk of blood clots.

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3. Antithrombin III (ATIII) deficiency: ATIII is a natural anticoagulant, and its deficiency can lead to increased clotting.

4. Protein C and Protein S deficiencies: These proteins are natural anticoagulants, and their deficiencies can increase the risk of blood clots.

5. Antiphospholipid antibodies (APAs): These acquired antibodies, including anticardiolipin antibodies, lupus anticoagulant, and beta-2 glycoprotein I antibodies, can cause blood clots and are strongly associated with RPL.

The evidence supporting the role of inherited thrombophilias in RPL is mixed, with some studies suggesting an increased risk of miscarriage, while others show no significant association. The most consistent association has been found with FVL and prothrombin gene mutations, particularly in women with a history of second-trimester or later miscarriages.

APAs, on the other hand, have a well-established association with RPL, and APA testing is widely recommended in the evaluation of women with recurrent miscarriages.

When thrombophilia testing is performed, it is important to interpret the results in the context of the patient's personal and family history of thrombosis and pregnancy complications. Positive results may warrant consideration of anticoagulant therapy (such as low-dose aspirin and/or heparin) in subsequent pregnancies, although the optimal treatment regimen remains a topic of ongoing research.

It's important to note that not all women with thrombophilias will experience RPL, and not all cases of RPL are caused by thrombophilias. The decision to screen for thrombophilias should be made in consultation with a healthcare provider experienced in managing RPL, who can weigh the potential benefits and risks of testing and



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Should women with recurrent pregnancy loss screen for metabolic or endocrinological tests? Which tests are recommended?

treatment.

In addition to thrombophilia screening, a comprehensive evaluation of RPL should also consider other potential causes, such as genetic, anatomic, endocrine, and immunologic factors. A personalized approach to testing and treatment, guided by a specialist in RPL, can help optimize the chances of a successful pregnancy.

1. Thyroid function test

- Hypothyroidism or hyperthyroidism may increase the risk of RPL.

Most guidelines recommend thyroid function tests such as TSH and free T4 for women with RPL. Some guidelines also recommend simultaneous testing of autoantibodies such as anti-thyroid peroxidase antibodies (TPO-Ab).

- Clear thyroid dysfunction requires appropriate treatment.

For antibody positive patients with normal thyroid function, the benefit of treatment is not clear.

2. Glucose metabolism test

Diabetes and insulin resistance may increase the risk of RPL.

For women with RPL who have high risk factors for diabetes (such as obesity, PCOS, family history of diabetes, etc.), an oral glucose tolerance test (OGTT) or glycated hemoglobin (HbA1c) test is recommended.

- Clearly diagnosed diabetes or gestational diabetes requires blood sugar management. For simple insulin resistance, lifestyle interventions may be more appropriate than medication.

3. Test for hyperprolactinemia

- Hyperprolactinemia can lead to insufficient luteal function and an increased risk of RPL.

- Serum prolactin levels are recommended for women with RPL who have clinical manifestations of hyperprolactinemia, such as lactation, sporadic menstruation, etc.

- The diagnosis of hyperprolactinemia requires finding the cause (such as pituitary tumor) and giving the appropriate

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treatment (such as dopamine receptor agonists).

4. Polycystic ovary syndrome (PCOS) assessment  
PCOS may increase the risk of RPL through various mechanisms such as insulin resistance and hyperandrogenemia.

- For women with RPL who have clinical manifestations of PCOS (e.g., dysmenorrhea, hirsutism, acne, etc.), it is recommended to conduct relevant endocrine assessments, such as androgen, insulin, etc.

Management of PCOS needs to be individualized and may include lifestyle interventions, insulin sensitizers, ovulation induction, etc.

5. Evaluation of other endocrine or metabolic abnormalities  
Some other endocrine or metabolic abnormalities, such as Cushing syndrome and vitamin D deficiency, may also increase the risk of RPL.

- But the role of these exceptions in RPL is not clear.  
Screening is generally considered only for women with RPL who have corresponding clinical manifestations.

It is important to note that metabolic or endocrine abnormalities are not the primary cause of RPL. Abnormal test results should be interpreted with caution to avoid excessive examination and treatment. The clinical significance of some changes, such as mild TSH elevation, is unclear, and the benefits of treatment need to be weighed against the pros and cons.

In addition, metabolic or endocrine assessment is only one aspect of the investigation of the cause of RPL, and diagnosis and treatment need to be combined with other information. Some abnormalities, such as PCOS, may increase the risk of RPL, but alone are not sufficient to explain RPL, and there may be other causes working together.

In conclusion, selective metabolic or endocrine testing (e.g., thyroid function, glucose metabolism, etc.) is

Clinical  
Case

I am 29 years old and have three times pregnancy loss. My husband is an alcoholic and obese. Does my husband's lifestyle promote my pregnancy loss? Is it necessary for him to limit consumption and lose weight?

reasonable for women with RPL, but unnecessary testing should be avoided. Abnormal test results should be interpreted by an endocrinologist and the pros and cons of treatment should be weighed. The management of metabolic or endocrine problems needs to be individualized and integrated with the overall management of RPL. More studies are needed to clarify the exact relationship between certain metabolic or endocrine abnormalities and RPL in order to optimize detection and intervention strategies.

I'm sorry to hear about your pregnancy losses. While there can be many potential causes, your husband's lifestyle factors could potentially contribute to an increased risk of pregnancy complications and loss. However, it's important to consult with your healthcare provider to discuss your specific situation and get personalized advice.

Regarding your husband's alcohol consumption and obesity:

1. Alcohol consumption: Excessive alcohol intake by the father has been associated with an increased risk of miscarriage, stillbirth, and other pregnancy complications. Alcohol can negatively impact sperm quality, which may lead to fertility issues and potential pregnancy loss.

2. Obesity: Paternal obesity has also been linked to a higher risk of pregnancy complications and miscarriage. Obesity can cause hormonal imbalances, reduce sperm quality, and contribute to other health issues that may affect reproductive outcomes.

While your husband's lifestyle choices may play a role, it's crucial to remember that pregnancy loss can occur due to various factors, including chromosomal abnormalities, maternal health conditions, and other issues not related to paternal health.

It would be beneficial for your husband to adopt healthier habits, such as limiting alcohol consumption and working

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towards a healthy weight through a balanced diet and regular exercise. These changes can improve overall health, fertility, and potentially reduce the risk of pregnancy complications.

However, the most important step is to have an open discussion with your healthcare provider. They can assess your medical history, perform necessary tests, and provide guidance on how to optimize your chances of a healthy pregnancy. Additionally, seeking support from a mental health professional may be helpful in coping with the emotional impact of pregnancy loss.

Treat ment	Single Choice	What is the recommendation for women with hereditary thrombophilia and recurrent pregnancy loss(RPL)? A) Use antithrombotic prophylaxis B) Avoid antithrombotic prophylaxis unless for VTE prevention or research C) Administer aspirin D) Undergo genetic testing	B	5	5
		What is the recommendation for women with recurrent pregnancy loss(RPL) and endometrial polyps? A) Regular monitoring with MRI B)Surgery increases the chance of a live birth in women with RPL C) Surgery increases the chance of miscarriage in women with RPL D) Surgical removal of endometrial polyps is not recommended			
		What is the recommendation regarding vaginal progesterone in women with recurrent pregnancy loss(RPL)? A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy B) Not recommended in any case of RPL C) Only recommended for women with less than 3 pregnancy losses D) Recommended for all women with RPL			
		Which of the following is true about multivitamin supplements consumption in women with recurrent			
	Single Choice		A	5	5
	Single		A	5	5

[illegible]

pregnancy outcomes in women with APS.  
Inherited thrombophilia disorders:

For women with RPL and inherited thrombophilia disorders (e.g., factor V Leiden mutation, prothrombin gene mutation), the use of LMWH and/or low-dose aspirin may be considered, especially in the presence of additional risk factors or a history of venous thromboembolism. However, the evidence for the effectiveness of this treatment in improving pregnancy outcomes in women with inherited thrombophilia is less conclusive.  
Unexplained RPL:

In cases of unexplained RPL (where no specific cause has been identified), some guidelines suggest considering empiric treatment with LMWH and/or low-dose aspirin, particularly in women with additional risk factors or a history of late pregnancy losses. However, the evidence for the effectiveness of this treatment in unexplained RPL is limited and controversial. It's important to note that the decision to use heparin, aspirin, or a combination of both should be made in consultation with a healthcare provider who specializes in high-risk pregnancies or maternal-fetal medicine. The potential benefits and risks of treatment should be carefully evaluated for each individual case, considering the specific circumstances and medical history.

Additionally, other interventions, such as lifestyle modifications, supplementation with folic acid or other vitamins, and close monitoring during pregnancy, may also be recommended for women with RPL, depending on the underlying cause and risk factors.

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Should women with uterine abnormalities and recurrent pregnancy loss be treated with surgery?

For patients with uterine abnormalities and recurrent miscarriage, the need for surgical treatment depends on the type of abnormality, its severity, and its relationship to miscarriage. Here are some suggestions for handling common exceptions:

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1. Uterine mediastinum and bicorned uterus: Generally, no surgery is required, and the uterine cavity is monitored by regular B-ultrasound. If repeated miscarriage and other factors are excluded, correction of uterine malformation may be considered.

2. Adenomyosis of uterus: Surgery is generally not required. Obvious symptoms can be treated with drugs. For patients with more adenomyosis cells and repeated abortion, oral levonorgestrel or GnRH-a treatment after curettage, or adenomyectomy can be performed.

3. Uterine fibroids: diameter <5cm and do not reverse degeneration, generally do not need to be treated. For patients with large, rapidly growing or recurrent abortion, myomectomy or uterine artery embolization can be performed depending on the location of the fibroids.

4. Intrauterine adhesions: mild adhesions do not require treatment. Hysteroscopic adhesiolysis is feasible for moderate and severe adhesiveness, and IUD is placed after surgery to prevent readhesiveness, supplemented with drug therapy if necessary.

5. Endometrial polyps: those with diameter <1cm can be temporarily left untreated and should be followed up regularly. For large polyps or repeated abortion, hysteroscopic polyp resection is feasible.

6. Cervical insufficiency: Cervical cerclage can be performed at 12-14 weeks of pregnancy. Contraindications such as cervical inflammation and bleeding should be treated first.

In conclusion, for patients with uterine abnormalities and recurrent miscarriage, it is necessary to identify the type of abnormality and then evaluate the relationship between the abnormality and miscarriage. For uterine abnormalities that may lead to miscarriage, surgical treatment may be an option, but it is necessary to weigh the benefits and risks of

Clinical Case	<p>I am 12 weeks pregnant and have been diagnosed with recurrent pregnancy loss(RPL). In my thyroid function tests, the TSH level was within the normal reference range. But my thyroid antibody is positive. How should I be followed during pregnancy?</p>	<p>surgery, choose the right time, and support the necessary medical treatment and measures to preserve the fetus. It is recommended to develop an individualized treatment plan under the guidance of prenatal diagnosis and obstetrics and gynecology experts.</p> <p>If you have been diagnosed with recurrent pregnancy loss (RPL) and have positive thyroid antibodies, even with a normal thyroid stimulating hormone (TSH) level, close monitoring during your pregnancy is recommended. Here are some general guidelines:</p> <p>Thyroid function monitoring: Your thyroid function tests, including TSH and free thyroxine (FT4) levels, should be monitored closely, usually every 4-6 weeks during pregnancy. Even if your TSH is within the normal range, positive thyroid antibodies can increase the risk of developing hypothyroidism during pregnancy.</p> <p>Thyroid antibody testing: Since you have positive thyroid antibodies, it is advisable to have them tested periodically during pregnancy to monitor their levels.</p> <p>Thyroid medication consideration: If your TSH level rises above the pregnancy-specific reference range (usually above 2.5-3.0 mIU/L in the first trimester or above 3.0-3.5 mIU/L in the second and third trimesters), your healthcare provider may recommend starting levothyroxine (thyroid hormone replacement) therapy to maintain optimal thyroid hormone levels.</p> <p>Fetal monitoring: Regular fetal growth monitoring through ultrasounds may be recommended, as thyroid disorders can potentially affect fetal growth and development. The decision to treat with levothyroxine (synthetic thyroid hormone) during pregnancy in cases of recurrent pregnancy loss (RPL) and positive thyroid antibodies depends on several factors. Here are some considerations:</p> <p>Thyroid function tests: Since your thyroid function tests, including TSH (thyroid-stimulating hormone), are within the</p>	23441119.05
Clinical Case	<p>I have been diagnosed with recurrent pregnancy loss(RPL). And I am pregnant again now. My thyroid function tests, and the TSH level was within the normal reference range. But my thyroid antibody is positive. Should I be treated with levothyroxine during pregnancy?</p>	<p>Thyroid function tests: Since your thyroid function tests, including TSH (thyroid-stimulating hormone), are within the</p>	23331019.04



normal reference range, it suggests that your thyroid is currently functioning adequately. However, during pregnancy, the reference ranges for TSH are slightly lower than in non-pregnant women.

**Thyroid antibodies:** The presence of thyroid antibodies, such as anti-thyroid peroxidase (TPO) antibodies or anti-thyroglobulin antibodies, indicates an autoimmune thyroid condition, which can increase the risk of miscarriage and other pregnancy complications.

**History of RPL:** Women with a history of RPL and positive thyroid antibodies may benefit from levothyroxine treatment during pregnancy, even if their thyroid function tests are normal. This is because thyroid antibodies can affect the placental function and increase the risk of pregnancy complications.

**Trimester of pregnancy:** The risk of pregnancy complications associated with thyroid antibodies is higher in the first trimester, which is a critical period for fetal development.

Based on the current guidelines from organizations such as the American Thyroid Association (ATA) and the Endocrine Society, many experts recommend treating with levothyroxine during pregnancy in women with RPL and positive thyroid antibodies, even if their thyroid function tests are normal.

The goal of treatment is to maintain TSH levels within the trimester-specific reference ranges and suppress the production of thyroid antibodies, which may help reduce the risk of miscarriage and other pregnancy complications.

However, it's important to discuss your specific case with your obstetrician or endocrinologist, who can evaluate your individual risk factors, medical history, and current pregnancy status to determine the most appropriate course of action.

Clinical  
Case

I am 12 weeks pregnant and want to use multivitamin supplements. I have been diagnosed with recurrent pregnancy loss. Is it safe for me? What multivitamin supplements should I take?

Multivitamin supplements can be beneficial during pregnancy, as they help ensure that you and your growing baby receive adequate essential nutrients. However, it's important to choose a supplement that is safe and appropriate for your specific needs, especially given your history of recurrent pregnancy loss. Here are some general guidelines:

1. Prenatal vitamins:

- Look for a prenatal vitamin that is specifically formulated for pregnant women.
- Prenatal vitamins typically contain essential nutrients such as folic acid, iron, calcium, vitamin D, and other important vitamins and minerals.

2. Folic acid:

- Folic acid is crucial for preventing neural tube defects and supporting fetal development.
- The recommended daily dose of folic acid during pregnancy is 400-800 mcg.
- Some healthcare providers may recommend a higher dose of folic acid (up to 4 mg) for women with a history of recurrent pregnancy loss or other risk factors.

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3. Iron:

- Iron is essential for preventing anemia and supporting fetal growth.
- Prenatal vitamins usually contain iron, but your healthcare provider may recommend an additional iron supplement based on your individual needs.

4. Vitamin D:

- Vitamin D is important for calcium absorption and bone health.
- The recommended daily dose of vitamin D during pregnancy is 600-800 IU.

5. Omega-3 fatty acids:

- Omega-3 fatty acids, particularly DHA, are important for fetal brain and eye development.

- Some prenatal vitamins include DHA, or you may consider taking a separate omega-3 supplement.

6. Avoid excessive doses:

- More is not always better when it comes to vitamins and minerals. Excessive doses of certain nutrients, such as vitamin A, can be harmful during pregnancy.
- Stick to the recommended daily allowances (RDA) for each nutrient, unless otherwise advised by your healthcare provider.

Before starting any supplement regimen, it's crucial to consult with your healthcare provider. They can recommend a specific prenatal vitamin or supplement plan that is tailored to your individual needs, taking into account your medical history, dietary habits, and any underlying health conditions.

Additionally, your healthcare provider will closely monitor your pregnancy progress and may recommend additional tests or interventions based on your history of recurrent pregnancy loss. This may include monitoring your thyroid function, screening for thrombophilias, or other specialized care to optimize your chances of a successful pregnancy.

Remember, while multivitamin supplements can be beneficial, they should not replace a balanced, nutrient-rich diet. Aim to eat a variety of healthy foods, including fruits, vegetables, whole grains, lean proteins, and healthy fats, to provide the best nourishment for you and your growing baby.

**Table 3.** Scores for Gemini Pro before training

Content	Question Type	Question	Answers	Accuracy (investigator A)	Accuracy (investigator B)	Comprehensiveness (investigator A)	Comprehensiveness (investigator B)	Flesch Reading Ease	Flesch-Kincaid Grade Level
Prevention	Single Choice	Women should be sensitively informed that the risk of pregnancy loss is lowest in women aged: A. 20 to 25 years B. 20 to 35 years C. 30 to 40 years D. Over 40 years	A. 20 to 25 years	1	2				
	Single Choice	Women should be informed that the risk of pregnancy loss rapidly increases after the age of: A. 35 years B. 40 years C. 45 years D. 50 years	B. 40 years	5	5				
	Single Choice	Regarding the association between stress and recurrent pregnancy loss (RPL), which statement is correct? A. Stress is a direct cause of RPL B. Stress is associated with RPL, but there is no evidence that it is a direct cause C. Stress has no association with RPL D. Stress increases the chances of pregnancy	B. Stress is associated with RPL, but there is no evidence that it is a direct cause	5	5				
	Single Choice	For couples with recurrent pregnancy loss(RPL), what is maternal obesity or being significantly underweight associated with? A. Obstetric complications B. Chances of a live birth C. General health issues D. All of the above	D. All of the above	5	5				
	Single Choice	For couples with recurrent pregnancy loss(RPL), which recommendation is suggested? A. Maintain low body weight B. Maintain a healthy normal range BMI C. Gain weight D. Make no changes	B. Maintain a healthy normal range BMI	5	5				
	Single Choice	What is the relationship between excessive alcohol consumption and recurrent pregnancy loss(RPL)? A. A proven risk factor B. A possible risk factor C. No relationship D. Beneficial	A. A proven risk factor	2	2				
	Single	For couples with	B. Limit alcohol consumption	5	5				

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Obesity: Women with a body mass index (BMI) of 30 or higher have an increased risk of pregnancy loss, as obesity can affect hormonal balance and blood flow to the uterus.

Underweight: Women with a BMI below 18.5 also have an increased risk of pregnancy loss, as underweight can lead to nutritional deficiencies that affect fetal development.

Poor nutrition: A diet deficient in essential nutrients, such as folic acid, iron, and calcium, can increase the risk of pregnancy loss.

Lack of exercise: Regular exercise is beneficial for women of reproductive age, but excessive or strenuous exercise during pregnancy may increase the risk of miscarriage.

Advanced maternal age: The risk of pregnancy loss increases with maternal age, particularly after the age of 35.

Medical conditions: Certain medical conditions, such as thyroid disorders, diabetes, and autoimmune diseases, can affect pregnancy and increase the risk of pregnancy loss.

Uterine abnormalities: Congenital or acquired abnormalities of the uterus, such as fibroids or uterine septum, can interfere with fetal implantation and growth.

Genetic factors: Some genetic conditions, such as chromosomal abnormalities, can increase the risk of pregnancy loss.

Previous pregnancy loss: Women who have experienced one or more previous pregnancy losses have an increased risk of recurrent pregnancy loss.

Health Behavior Modifications for Recurrent Pregnancy Loss Prevention

Common

Question  
How to prevent recurrent pregnancy loss through health behavior modifications?

#### 1. Lifestyle Modifications:

Maintain a healthy weight: Obesity increases the risk of pregnancy complications, including miscarriage.

Quit smoking: Smoking damages the lining of the uterus and reduces blood flow to the fetus.

Limit alcohol consumption: Excessive alcohol use can interfere with hormone production and fetal development.

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Exercise regularly: Moderate exercise can improve circulation and reduce stress levels.

Get enough sleep: Sleep deprivation can affect hormone production and stress response.

## 2. Dietary Adjustments:

Follow a nutrient-rich diet: Ensure adequate intake of folic acid, iron, calcium, and vitamins D and B12.

Avoid raw or undercooked foods: These can harbor harmful bacteria or parasites.

Limit caffeine and processed foods: Excessive caffeine or processed foods can contribute to inflammation and stress.

## 3. Stress Management:

Practice relaxation techniques: Yoga, meditation, or deep breathing can reduce stress levels.

Seek professional help: If stress is a significant factor, consider therapy or counseling.

Avoid excessive physical or emotional stress: Rest and take breaks when needed.

## 4. Medical Management:

Address underlying medical conditions: Treat any underlying health issues, such as thyroid disorders, diabetes, or autoimmune diseases.

Consider medications: Some medications, such as progesterone or aspirin, may be prescribed to support pregnancy.

Monitor hormone levels: Ensure adequate levels of progesterone and other hormones necessary for pregnancy.

## 5. Other Considerations:

Avoid environmental toxins: Limit exposure to chemicals, radiation, and air pollution.

Get regular prenatal care: Follow recommended prenatal appointments to monitor the pregnancy and address any concerns promptly.

Consider genetic testing: If there is a family history of pregnancy loss, genetic testing may help identify potential

causes.

Seek support: Join support groups or connect with others who have experienced recurrent pregnancy loss.

Additional Tips:

Educate yourself: Learn about the causes and risk factors for pregnancy loss.

Be patient and persistent: It may take time to identify and address the underlying causes.

Don't give up hope: With the right support and interventions, many women with recurrent pregnancy loss can have successful pregnancies.

Yes, advanced maternal age is associated with an increased risk of recurrent pregnancy loss.

As a woman's age increases, the quality and quantity of her eggs decline. This can lead to an increased risk of chromosomal abnormalities in the embryos, which can result in miscarriage. Additionally, older women are more likely to have underlying health conditions, such as thyroid problems or diabetes, which can also increase the risk of pregnancy loss.

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If advanced maternal age increase the risk of recurrent pregnancy loss?

The risk of recurrent pregnancy loss increases significantly after the age of 35. For women who have had two or more miscarriages, the risk of having another miscarriage is about 25%. This risk increases to about 50% for women who have had three or more miscarriages.

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Is recurrent pregnancy loss related to maternal weight?

If you are over the age of 35 and have had recurrent pregnancy losses, it is important to see a doctor to rule out any underlying health conditions that may be contributing to the problem. Treatment options for recurrent pregnancy loss may include taking medication, having surgery, or using assisted reproductive technologies.

Yes, recurrent pregnancy loss (RPL) is related to maternal weight. Both underweight and overweight/obesity have been associated with an increased risk of RPL.

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Underweight:



Women with a body mass index (BMI) below 18.5 kg/m<sup>2</sup> have a higher risk of RPL compared to women with a normal BMI (18.5-24.9 kg/m<sup>2</sup>).

Underweight can lead to hormonal imbalances, nutritional deficiencies, and impaired uterine function, which can affect embryo implantation and pregnancy maintenance.

Overweight/Obesity:

Women with a BMI of 25 kg/m<sup>2</sup> or higher have an increased risk of RPL compared to women with a normal BMI.

Excess weight can lead to insulin resistance, inflammation, and hormonal imbalances, which can interfere with ovulation, embryo development, and placental function.

Obesity is also associated with an increased risk of gestational diabetes, preeclampsia, and other pregnancy complications that can contribute to RPL.

Mechanisms:

The exact mechanisms linking maternal weight to RPL are not fully understood, but several factors may play a role:

Hormonal imbalances: Underweight and overweight/obesity can affect the production and balance of hormones involved in pregnancy, such as estrogen, progesterone, and insulin.

Nutritional deficiencies: Underweight women may have insufficient levels of essential nutrients, such as iron, folic acid, and vitamin D, which are important for fetal development.

Uterine abnormalities: Overweight/obese women may have an increased risk of uterine fibroids, polyps, or other uterine abnormalities that can interfere with embryo implantation and pregnancy maintenance.

Inflammation: Excess weight can lead to chronic inflammation, which can impair the function of the reproductive organs.

Management:

		<p>Maintaining a healthy weight before and during pregnancy is important for reducing the risk of RPL. This involves:</p>	
		<p>For underweight women: Gaining weight through a healthy diet and exercise program.</p>	
		<p>For overweight/obese women: Losing weight gradually through a balanced diet and regular physical activity.</p>	
		<p>For all women: Eating a nutritious diet, getting regular exercise, and managing any underlying medical conditions that may affect weight or pregnancy.</p>	
		<p>Association between Alcohol Consumption and Pregnancy Loss</p>	
		<p>Yes, there is a strong association between excessive alcohol consumption and pregnancy loss. Alcohol can cross the placenta and reach the developing fetus, causing various adverse effects.</p>	
		<p>Recommended Alcohol Consumption Limit During Pregnancy</p>	
		<p>To minimize the risk of fetal alcohol syndrome (FAS) and other alcohol-related birth defects, it is recommended to:</p>	
Clinical Case	<p>I am 42 years old and 10 weeks pregnant. I have excessive alcohol consumption and twice pregnancy loss before. Is there any association? Should I limit alcohol consumption during pregnancy? What is the safe upper limit for daily alcohol consumption during pregnancy?</p>	<p>Avoid alcohol consumption entirely during pregnancy. Safe Upper Limit</p>	<p>3 3 4 3 27 12.05</p>
		<p>There is no established safe upper limit for alcohol consumption during pregnancy. Even small amounts of alcohol can potentially harm the developing fetus.</p>	
		<p>Implications for Your Situation</p>	
		<p>Given your history of excessive alcohol consumption and previous pregnancy losses, it is crucial to:</p>	
		<p>Quit drinking alcohol immediately.</p>	
		<p>Seek professional help to address your alcohol use.</p>	
		<p>Attend prenatal care appointments regularly to monitor your pregnancy.</p>	

Clinical  
Case

I am overweight and have experienced three times pregnancy loss. Is obesity a risk for my recurrent miscarriages? Should I have a weight loss ?

Inform your healthcare provider about your alcohol use history.

Additional Considerations

Alcohol consumption can also increase the risk of premature birth, low birth weight, and other developmental problems.

The effects of alcohol on the fetus can vary depending on the amount consumed, the stage of pregnancy, and other factors.

It is never too late to quit drinking alcohol during pregnancy. Any reduction in alcohol consumption can benefit your baby's health.

Obesity and Recurrent Miscarriages

Yes, obesity is a risk factor for recurrent miscarriages. Studies have shown that women with a body mass index (BMI) of 30 or higher have an increased risk of miscarriage compared to women with a healthy BMI.

Reasons for Increased Risk

Hormonal imbalances: Obesity can lead to hormonal imbalances, such as increased levels of estrogen and insulin, which can interfere with ovulation and implantation.

Insulin resistance: Obesity can cause insulin resistance, which can lead to high blood sugar levels and increase the risk of gestational diabetes. This can affect the growth and development of the fetus.

Inflammation: Obesity is associated with chronic inflammation, which can damage the uterus and placenta.

Increased risk of blood clots: Obesity increases the risk of blood clots, which can block blood flow to the uterus and fetus.

Weight Loss and Recurrent Miscarriages

Losing weight can improve the chances of a successful pregnancy in women with obesity and recurrent miscarriages. Studies have shown that weight loss of even 5-10% can reduce the risk of miscarriage.

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### Recommended Weight Loss

If you are overweight or obese and have experienced recurrent miscarriages, it is recommended to talk to your doctor about a healthy weight loss plan. Gradual weight loss of 1-2 pounds per week is recommended.

### Other Factors to Consider

In addition to weight loss, other factors that may contribute to recurrent miscarriages include:

Age

Medical conditions (e.g., thyroid problems, diabetes)

Chromosomal abnormalities

Lifestyle factors (e.g., smoking, alcohol consumption)

Conclusion

Obesity is a risk factor for recurrent miscarriages. Losing weight can improve the chances of a successful pregnancy. However, it is important to consult with your doctor to determine the best weight loss plan for you and to rule out any other underlying medical conditions that may be contributing to your miscarriages.

Diagnosis	Single Choice	What is the recommendation for thyroid screening in women with recurrent pregnancy loss(RPL)? A) Only if there are symptoms of thyroid disorder B) Recommended in all cases C) After two pregnancy losses D) Not recommended
	Single Choice	For thyroid screening in women with recurrent pregnancy loss(RPL), which of the following are recommended? A. Thyroid-stimulating hormone (TSH). B. Thyroid peroxidase (TPO) antibodies. C. Thyroid-stimulating hormone (TSH) and Thyroxine (T4). D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.

B) Recommended in all cases

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D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.

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Single Choice	For women with recurrent pregnancy loss(RPL), when is screening recommended for antiphospholipid antibodies? A. After the first pregnancy loss. B. After two pregnancy losses. C. After three pregnancy losses. D. Only in the presence of additional risk factors for thrombophilia.	B. After two pregnancy losses.	5	5
Single Choice	For women with recurrent pregnancy loss(RPL), which of the following assessments is not recommended to improve the prognosis of the next pregnancy? A. Assessment of Polycystic Ovary Syndrome (PCOS). B. Fasting insulin and glucose testing. C. Ovarian reserve testing. D. All of the above.	D. All of the above.	5	5
Single Choice	For couple with recurrent pregnancy loss(RPL), what is recommended for genetic analysis of pregnancy tissue following pregnancy loss? A)subtelomere multiplex ligation-dependent probe amplification (MLPA) B) Array-based Comparative Genomic Hybridization (array-CGH) C) quantitative fluorescence polymerase chain reaction (QF-PCR) D) karyotyping	B) Array-based Comparative Genomic Hybridization (array-CGH)	5	5
Single Choice	What is the preferred technique for evaluating the uterus in women with recurrent pregnancy loss(RPL)? A)Hysterosalpingography (HSG) B) Sonohysterography (SHG) C) Transvaginal 3D ultrasound (US) D) MRI	B) Sonohysterography (SHG)	1	1
Single Choice	Which of the following is not recommended for routine testing in women with recurrent pregnancy loss(RPL)? A) Human Leukocyte Antigen (HLA) determination B) Thyroid screening C) Transvaginal 3D ultrasound (US) D) Sonohysterography (SHG)	A) Human Leukocyte Antigen (HLA) determination	5	5
Multiple Choice	Regarding diagnostic investigations in recurrent pregnancy loss(RPL), which statement is correct? A. They can be tailored based on medical and family history. B. Genetic analysis of pregnancy tissue is mandatory for all patients. C. Genetic analysis of	A. They can be tailored based on medical and family history.	3	3

Multiple Choice	pregnancy tissue is not routinely recommended. D. Parental karyotyping should be performed for all patients. Which of the following investigations can be used for recurrent pregnancy loss(RPL) diagnosis? A. Medical and family history analysis B. Genetic analysis C. Antiphospholipid antibody screening D. Thyroid function tests	A, B, C, D	5	5						
	The prognosis for women with recurrent pregnancy loss(RPL) is recommended to be based on which factors? A. maternal age B.maternal age at first pregnancy C. Number of previous pregnancy losses D. Complete pregnancy history	D. Complete pregnancy history	2	2						
	For women with recurrent pregnancy loss(RPL), which tests are recommended? A. Thyroid function screening B. Ovarian reserve testing C. Luteal phase insufficiency testing D. Uterine anatomy assessment	A, D	5	5						
Short Essay Question	For couples with recurrent pregnancy loss, which imageological examinations should be taken?	Uterine imaging examination: 1) Transvaginal ultrasound: To evaluate uterine malformations, fibroids, polyps, or adhesions. 2) Hysterosalpingography (HSG) : Evaluation of abnormalities in the uterine cavity and fallopian tubes. 3) Hysteroscopy: Direct visualization of the uterine cavity to detect polyps, adhesions or other abnormalities. 4) Magnetic resonance Imaging (MRI) : Provides detailed images of the uterus and surrounding structures to aid in detection								
		Magnetic Resonance Imaging (MRI):  Pelvic MRI: To evaluate the uterus, ovaries, and surrounding structures for abnormalities that may contribute to pregnancy loss, such as uterine anomalies or fibroids. Diffusion-weighted MRI: To assess the microstructure of the placenta and detect placental abnormalities. Other Imaging Tests:  Hysterosalpingography (HSG): To evaluate the uterine cavity and fallopian tubes for abnormalities that may hinder implantation or embryo transport.	2	3	3	3	0	16.46		

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In the diagnosis of recurrent pregnancy loss, which is the preferred imageological examination for women?

Laparoscopy: To visualize the uterus, ovaries, and fallopian tubes directly to detect any abnormalities that may cause pregnancy loss.

Transvaginal ultrasound

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Yes, there is an association between family history and recurrent pregnancy loss (RPL).

First-degree relatives: Women with a first-degree relative (e.g., mother, sister) who has experienced RPL have an increased risk of RPL themselves. The risk is approximately 2-3 times higher compared to women without a family history.

Second-degree relatives: Women with a second-degree relative (e.g., aunt, cousin) who has experienced RPL also have a slightly increased risk of RPL, although the risk is lower than that for first-degree relatives.

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Is there any association between family history and recurrent pregnancy loss?

Underlying genetic factors: This increased risk suggests that there may be an underlying genetic predisposition to RPL in some families. Genetic factors that have been associated with RPL include:

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Chromosomal abnormalities  
Gene mutations (e.g., MTHFR, F2, F5)  
Polymorphisms in genes involved in immune regulation, thrombosis, and placental development  
Other factors: In addition to genetic factors, other factors that may contribute to RPL in families with a history of the condition include:

Shared environmental factors (e.g., exposure to toxins, lifestyle choices)  
Uterine abnormalities  
Endocrine disorders  
Autoimmune conditions

#### Implications:

Women with a family history of RPL should be aware of their increased risk and consider genetic counseling and testing to identify potential underlying causes. Early diagnosis and treatment of any underlying medical conditions can improve the chances of successful pregnancy outcomes.

Support and counseling can be beneficial for women with RPL and their families.

Genetic analysis of pregnancy tissue:

1) Karyotype analysis: detection of chromosome number and structural abnormalities, such as trisomy, monomer and translocation.

2) Microarray Comparative Genomic Hybridization (aCGH) : Detecting deletion or duplication of large segments of chromosomes.

3) Single nucleotide polymorphism (SNP) arrays: Detect small copy number variants (CNVS) on chromosomes, such as microdeletions and microduplications.

4) Whole Genome sequencing (WGS) : Detect mutations throughout the genome, including single nucleotide variation (SNV), insertion deletion (INDEL), and structural variation.

5) Mitochondrial DNA (mtDNA) sequencing: Detect mutations in mitochondrial DNA, as mitochondrial dysfunction is associated with RPL.

Recommendation for Serum Immunological Tests in Recurrent Pregnancy Loss

Serum immunological tests are not routinely recommended in the diagnosis of recurrent pregnancy loss (RPL).

Reasons for Limited Recommendation:

Limited evidence to support a clear association between serum immunological factors and RPL.

High false-positive rates, leading to unnecessary investigations and treatments.

Lack of standardized testing methods and reference

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What kinds of genetic analysis of pregnancy tissue are routinely recommended in the diagnosis of recurrent pregnancy loss(RPL)?

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Are serum immunological tests recommended in the diagnosis of recurrent pregnancy loss? What kinds of immunological tests should be taken?

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ranges.

Limited impact on clinical management and pregnancy outcomes.

Possible Exceptions:

In certain situations, serum immunological tests may be considered in women with RPL who have a history of:

Thrombophilia (blood clotting disorders)

Autoimmune disorders (e.g., lupus, antiphospholipid syndrome)

Unexplained recurrent miscarriages

Types of Immunological Tests

If serum immunological tests are deemed necessary, the following tests may be considered:

Antinuclear antibodies (ANA): Screen for systemic autoimmune disorders.

Antiphospholipid antibodies (aPL): Detect antibodies that interfere with blood clotting.

Thrombophilia panel: Test for inherited clotting disorders, such as Factor V Leiden mutation or prothrombin gene mutation.

Lupus anticoagulant: Detect antibodies that interfere with blood clotting tests.

Immunoglobulin levels: Assess the immune system's response to infection and inflammation.

Interpretation of Results

Interpretation of serum immunological test results should be done in the context of the patient's history and clinical findings. Positive results do not necessarily indicate a cause of RPL and may require further investigation.

Limitations

It is important to note that serum immunological tests have limitations and should not be relied upon as the sole diagnostic tool for RPL. Other factors, such as genetic

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Should women with recurrent pregnancy loss take a thrombophilia screening?

abnormalities, uterine abnormalities, and lifestyle factors, should also be considered.  
Yes, women with recurrent pregnancy loss should take a thrombophilia screening.

Rationale:

Thrombophilia is a condition that increases the risk of blood clots. Women with thrombophilia have an increased risk of pregnancy complications, including recurrent pregnancy loss.

Recommendations:

The American College of Obstetricians and Gynecologists (ACOG) recommends that women with recurrent pregnancy loss (two or more consecutive pregnancy losses) undergo thrombophilia screening.

Tests included in the screening:

Protein C deficiency  
Protein S deficiency  
Antithrombin deficiency  
Factor V Leiden mutation  
Prothrombin gene mutation  
Antiphospholipid syndrome  
Benefits:

Early detection and treatment of thrombophilia can reduce the risk of future pregnancy loss. Treatment options may include:

Anticoagulants (e.g., heparin, low-molecular-weight heparin)  
Aspirin  
Low-dose aspirin with heparin  
Considerations:

The cost of thrombophilia screening should be weighed

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Comm on Questi on	Should women with recurrent pregnancy loss screen for metabolic or endocrinological tests? Which tests are recommended?	<p>against the potential benefits.</p> <p>Not all women with thrombophilia will have recurrent pregnancy loss.</p> <p>A negative thrombophilia screening does not completely rule out the possibility of a clotting disorder.</p> <p>For women with recurrent miscarriages, metabolic or endocrinological testing is usually recommended to rule out potential causes.</p> <p>Metabolic tests:</p> <p>1) Thyroid function test: hypothyroidism or hyperthyroidism is associated with recurrent abortion.</p> <p>2) Diabetes screening: Untreated diabetes increases the risk of miscarriage.</p> <p>3) Blood lipid test: High cholesterol and triglyceride levels are associated with recurrent miscarriage.</p> <p>Endocrinology tests:</p> <p>1) Luteinizing hormone (LH) and follicle-stimulating hormone (FSH) levels: These hormones help regulate ovulation. Abnormal levels may indicate abnormal function of the hypothalamic-pituitary-ovarian axis.</p> <p>2) Prolactin levels: High prolactin levels can inhibit ovulation and lead to miscarriage.</p> <p>3) Progesterone levels: Progesterone is essential for maintaining pregnancy. Low progesterone levels can lead to miscarriage.</p> <p>4) Prolactin levels: Prolactin increases in late pregnancy, but abnormal increases may lead to miscarriage.</p> <p>Other recommended tests:</p> <p>1) Platelet count: Thrombocytopenia is associated with recurrent miscarriage.</p> <p>2) Antiphospholipid antibodies: These antibodies are associated with recurrent miscarriage and thrombosis.</p> <p>3) Lupus anticoagulant: Another antibody that has been linked to recurrent miscarriage and thrombosis.</p> <p>The purpose of these tests is to rule out potential causes in order to provide appropriate treatment for patients with recurrent miscarriage.</p>					
		2	1	3	3	9	14.77
Clinical	I am 29 years old and have three times pregnancy loss. My husband is an alcoholic and obese. Does my	<p>Yes, your husband's lifestyle can contribute to pregnancy loss.</p>					
		4	5	4	5	43	10.29

Case husband's lifestyle promote my pregnancy loss? Is it necessary for him to limit consumption and lose weight?

1) Alcohol Consumption:

Heavy alcohol consumption can impair sperm quality and increase the risk of miscarriage and birth defects.

Alcohol can also interfere with the hormonal balance necessary for a healthy pregnancy.

2) Obesity:

Obesity can increase inflammation and oxidative stress, which can damage eggs and sperm.

Obesity can also lead to hormonal imbalances that can affect pregnancy.

Recommendations for Your Husband:

1) Limit alcohol consumption: Encourage your husband to quit drinking or reduce his intake significantly.

2) Lose weight: If your husband is obese, it's important for him to lose weight through a healthy diet and exercise.

3) Improve overall health: Encourage him to eat a nutritious diet, get regular exercise, and manage stress.

Other Considerations:

1) It's not clear if your husband's lifestyle is the sole cause of your pregnancy losses. Other factors, such as your own health, genetics, and environmental factors, may also play a role.

2) It's important to consult with a healthcare professional to determine the underlying causes of your pregnancy losses and develop an appropriate treatment plan.

3) If your husband is struggling with alcohol addiction or obesity, it's crucial to seek professional help.

Conclusion:

Your husband's alcohol consumption and obesity may be contributing to your pregnancy losses. It's essential for him to limit alcohol consumption, lose weight, and improve his overall health to increase the chances of a successful pregnancy.

Obesity:

Obesity can increase inflammation and oxidative stress, which can damage eggs and sperm.

Obesity can also lead to hormonal imbalances that can affect pregnancy.

Recommendations for Your Husband:

Limit alcohol consumption: Encourage your husband to quit drinking or reduce his intake significantly.

Lose weight: If your husband is obese, it's important for him to lose weight through a healthy diet and exercise.

Improve overall health: Encourage him to eat a nutritious diet, get regular exercise, and manage stress.

Other Considerations:

It's not clear if your husband's lifestyle is the sole cause of your pregnancy losses. Other factors, such as your own health, genetics, and environmental factors, may also play a role.

It's important to consult with a healthcare professional to determine the underlying causes of your pregnancy losses and develop an appropriate treatment plan.

If your husband is struggling with alcohol addiction or obesity, it's crucial to seek professional help.

Conclusion:

Your husband's alcohol consumption and obesity may be contributing to your pregnancy losses. It's essential for him to limit alcohol consumption, lose weight, and improve his overall health to increase the chances of a successful pregnancy.

Treatment	What is the recommendation for women with hereditary thrombophilia and recurrent pregnancy loss(RPL)?		
	Single Choice	A) Use antithrombotic prophylaxis	
		B) Avoid antithrombotic prophylaxis unless for VTE prevention or research	
		C) Administer aspirin	
		D) Undergo genetic testing	

A) Use antithrombotic prophylaxis

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Single Choice	<p>What is the recommendation for women with recurrent pregnancy loss(RPL) and endometrial polyps?</p> <p>A) Regular monitoring with MRI</p> <p>B)Surgery increases the chance of a live birth in women with RPL</p> <p>C) Surgery increases the chance of miscarriage in women with RPL</p> <p>D) Surgical removal of endometrial polyps is not recommended</p>	B)Surgery increases the chance of a live birth in women with RPL	1	1
Single Choice	<p>What is the recommendation regarding vaginal progesterone in women with recurrent pregnancy loss(RPL)?</p> <p>A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy</p> <p>B) Not recommended in any case of RPL</p> <p>C) Only recommended for women with less than 3 pregnancy losses</p> <p>D) Recommended for all women with RPL</p>	A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy	5	5
Single Choice	<p>Which of the following is true about multivitamin supplements consumption in women with recurrent pregnancy loss(RPL)?</p> <p>A) Women with RPL should be advised on multivitamin supplements that are safe in pregnancy</p> <p>B) Multivitamin supplements are not recommended for women with RPL</p> <p>C) Multivitamin supplements are risk factors for RPL</p> <p>D) Vitamins A and E can be taken for women with RPL</p>	A) Women with RPL should be advised on multivitamin supplements that are safe in pregnancy	5	5
Multiple Choice	<p>What factors are recommended to base prognosis on for women with recurrent pregnancy loss(RPL)?</p> <p>A) Woman's age</p> <p>B) Complete pregnancy history</p> <p>C) Number of previous pregnancy losses</p> <p>D) Live births and their sequence</p>	B) Complete pregnancy history	2	2
Multiple Choice	<p>For women with recurrent pregnancy loss(RPL), what can prognostic tools (Kolte &amp; Westergaard) be used for?</p> <p>A) Providing an estimate of subsequent chance of live birth</p> <p>B) Providing an estimate of adverse pregnancy outcome</p> <p>C) Providing information on possible treatments</p>	A) Providing an estimate of subsequent chance of live birth	3	3

Which treatment methods are not recommended for women with recurrent pregnancy loss (RPL)?

- A. Progesterone
- B. Lymphocyte immunization therapy
- C. Repeated and high doses of Intravenous immunoglobulin (IVIg)
- D. Glucocorticoids

1 1

Evidence:

Meta-analyses and randomized controlled trials have consistently shown that heparin reduces the risk of pregnancy loss in women with RPL.

Aspirin:

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Guidelines:

### Mechanism of Action:

Heparin and aspirin are both anticoagulants that prevent blood clots from forming. In women with RPL, it is believed that excessive blood clotting may impair blood flow to the placenta, leading to pregnancy loss.

# Essay Comm on Questi on

## Questions

Comm  
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Should women with uterine abnormalities and recurrent pregnancy loss be treated with surgery?

Dosage and Monitoring:

Heparin is typically given as a subcutaneous injection once or twice daily.

Aspirin is usually taken orally at a dose of 81-100 mg daily.

Both heparin and aspirin require regular monitoring to ensure appropriate dosing and prevent side effects.

Conclusion:

Based on the available evidence, women with recurrent pregnancy loss should be treated with heparin or aspirin during pregnancy to reduce the risk of pregnancy loss. The choice of medication and dosage should be individualized based on the woman's specific circumstances and risk factors.

Yes, surgery may be an appropriate treatment option for women with uterine abnormalities and recurrent pregnancy loss (RPL).

Uterine Abnormalities:

Uterine abnormalities, such as uterine septum, bicornuate uterus, or arcuate uterus, can interfere with implantation and fetal development.

Surgery to correct these abnormalities can improve uterine shape and increase the chances of a successful pregnancy.

Recurrent Pregnancy Loss (RPL):

RPL is defined as three or more consecutive pregnancy losses before 20 weeks of gestation.

Uterine abnormalities are a common cause of RPL, accounting for up to 15% of cases.

Surgical Options:

Hysteroscopic metroplasty: This minimally invasive procedure uses a hysteroscope to remove or reshape uterine abnormalities.

Laparoscopic metroplasty: This procedure involves making small incisions in the abdomen to access and repair uterine abnormalities.

Benefits of Surgery:

Improved uterine shape and function

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Clinical  
Case

I am 12 weeks pregnant and have been diagnosed with recurrent pregnancy loss(RPL). In my thyroid function tests, the TSH level was within the normal reference range. But my thyroid antibody is positive. How should I be followed during pregnancy?

Increased implantation rates  
Reduced risk of miscarriage and preterm birth

Considerations:

Surgery is not always necessary or successful.  
The type of surgery recommended depends on the specific uterine abnormality.  
Other factors to consider include the woman's age, reproductive history, and overall health.

Conclusions:

Surgery can be an effective treatment option for women with uterine abnormalities and RPL.  
It can improve uterine shape, increase implantation rates, and reduce the risk of pregnancy loss.  
However, the decision to undergo surgery should be made in consultation with a qualified healthcare professional who can assess the individual patient's situation and recommend the most appropriate course of action.  
Monitoring for Pregnancy with RPL and Thyroid Antibody Positivity

Initial Evaluation:

Confirm the diagnosis of RPL (three or more consecutive pregnancy losses)  
Perform a comprehensive thyroid function test, including:  
Thyroid-stimulating hormone (TSH)  
Free thyroxine (FT4)  
Thyroid antibodies (anti-thyroid peroxidase (TPO) and anti-thyroglobulin (Tg))

Follow-Up Monitoring:

TSH: Monitor TSH levels every 4-6 weeks throughout pregnancy.  
Thyroid Antibodies: Repeat thyroid antibody testing at 16-20 weeks of gestation.  
Ultrasound: Perform serial ultrasounds to monitor fetal growth and development.  
Fetal Heart Rate Monitoring: Monitor fetal heart rate regularly to detect any potential complications.

2 2 4 4 19 13.16

Clinical Case	I have been diagnosed with recurrent pregnancy loss(RPL). And I am pregnant again now. My thyroid function tests, and the TSH level was within the normal reference range. But my thyroid antibody is positive. Should I be treated with levothyroxine during pregnancy?	<p>Treatment:</p> <p>Thyroid Hormone Replacement:If TSH levels rise above the normal reference range, thyroid hormone replacement therapy may be necessary.</p> <p>Aspirin Therapy: Low-dose aspirin may be recommended to improve blood flow to the uterus and reduce the risk of pregnancy loss.</p> <p>Heparin Therapy: In some cases, heparin may be prescribed to prevent blood clots.</p>						
		<p>Additional Considerations:</p> <p>Immune Modulation:If other autoimmune conditions are present, immune modulation therapy may be considered.</p> <p>Genetic Testing: Consider genetic testing to rule out any underlying genetic factors contributing to RPL.</p> <p>Lifestyle Modifications:Maintain a healthy weight, eat a balanced diet, and avoid smoking and alcohol consumption.</p>						
		<p>Importance of Close Monitoring:</p> <p>Close monitoring is crucial for managing pregnancy with RPL and thyroid antibody positivity. Regular testing and appropriate interventions can help optimize fetal outcomes and reduce the risk of pregnancy loss.</p>						
		<p>Consultation:</p> <p>It is essential to consult with a healthcare professional, such as an obstetrician, endocrinologist, or maternal-fetal medicine specialist, for personalized guidance and management of your pregnancy.</p> <p>There is no consensus on whether patients with recurrent pregnancy loss (RPL) who are positive for thyroid antibodies but whose TSH levels are in the normal range should be treated with levothyroxine during pregnancy.</p> <p>Some studies have shown that thyroid antibody positive patients have an increased risk of miscarriage, and levothyroxine treatment can reduce this risk. However,</p>						
			3	3	4	4	42	11.28

other studies have not shown this benefit.

The American Thyroid Association (ATA) recommends case-specific evaluation of patients with RPL who are positive for thyroid antibodies and whose TSH levels are in the normal range. Levothyroxine therapy may be considered if the patient has:

History of severe RPL (3 or more miscarriages)  
First trimester (before 6 weeks) abortion  
Thyroid peroxidase antibody (TPOAb) levels increased  
The starting dose of levothyroxine is usually 25 micrograms per day and is gradually increased with TSH level monitoring. The treatment goal is to maintain TSH levels below 2.5 mIU/L.

It is important to discuss your specific situation with your healthcare provider and weigh the potential benefits and risks of levothyroxine therapy. They can help you make the decision that is best for you.

#### Safety of Multivitamin Supplements in Recurrent Pregnancy Loss

Multivitamin supplements are generally considered safe for women with recurrent pregnancy loss (RPL). However, it's crucial to consult with your healthcare provider before taking any supplements to ensure they are appropriate for your specific situation.

**Clinical Case** I am 12 weeks pregnant and want to use multivitamin supplements. I have been diagnosed with recurrent pregnancy loss. Is it safe for me? What multivitamin supplements should I take?

#### Recommended Multivitamin Supplements:

The following multivitamins are commonly recommended for women with RPL:

Prenatal vitamins: These contain essential nutrients, including folic acid, iron, and calcium, which are important for a healthy pregnancy.

Multivitamins with extra folic acid: Folic acid is crucial for preventing neural tube defects in the baby. Women with RPL may benefit from taking extra folic acid.

Multivitamins with antioxidants: Antioxidants, such as vitamin C, vitamin E, and beta-carotene, can help protect cells from damage.

4 4 4 5 21 13.58

#### Specific Considerations for RPL:

**Iron:** Women with RPL may have low iron levels, so a multivitamin with iron is recommended.

**Vitamin D:** Vitamin D deficiency has been linked to RPL. Consider a multivitamin that includes vitamin D.

**Zinc:** Zinc is important for fetal growth and development. A multivitamin with zinc may be beneficial.

#### Dosage and Timing:

The dosage and timing of multivitamin supplements will vary depending on your individual needs and the specific supplement you choose. It's essential to follow the manufacturer's instructions and consult with your healthcare provider for personalized recommendations.

#### Other Important Considerations:

**Avoid excessive intake:** Taking too much of certain nutrients can be harmful.

**Choose high-quality supplements:** Look for supplements from reputable manufacturers that meet quality standards.

**Consider individual needs:** Your healthcare provider can help you determine the best multivitamin supplement based on your medical history, dietary habits, and other factors.

#### Conclusion:

Multivitamin supplements can be beneficial for women with RPL by providing essential nutrients and antioxidants.

However, it's crucial to consult with your healthcare provider before taking any supplements to ensure safety and appropriateness.

**Table 4.** Scores for ChatGPT-4 after training

Content	Question Type	Question	Answers	Accuracy (investigator A)	Accuracy (investigator B)	Comprehensiveness (investigator A)	Comprehensiveness (investigator B)	Flesch Reading Ease	Flesch-Kincaid Grade Level
Prevention	Single Choice	Women should be sensitively informed that the risk of pregnancy loss is lowest in women aged: A. 20 to 25 years B. 20 to 35 years C. 30 to 40 years D. Over 40 years	B. 20 to 35 years	5	5				
	Single Choice	Women should be informed that the risk of pregnancy loss rapidly increases after the age of: A. 35 years B. 40 years C. 45 years D. 50 years	B. 40 years	5	5				
	Single Choice	Regarding the association between stress and recurrent pregnancy loss (RPL), which statement is correct? A. Stress is a direct cause of RPL B. Stress is associated with RPL, but there is no evidence that it is a direct cause C. Stress has no association with RPL D. Stress increases the chances of pregnancy	B. Stress is associated with RPL, but there is no evidence that it is a direct cause	5	5				
	Single Choice	For couples with recurrent pregnancy loss(RPL), what is maternal obesity or being significantly underweight associated with? A. Obstetric complications B. Chances of a live birth C. General health issues D. All of the above	D. All of the above	5	5				
	Single Choice	For couples with recurrent pregnancy loss(RPL), which recommendation is suggested? A. Maintain low body weight B. Maintain a healthy normal range BMI C. Gain weight D. Make no changes	B. Maintain a healthy normal range BMI	5	5				
	Single Choice	What is the relationship between excessive alcohol consumption and recurrent pregnancy loss(RPL)? A. A proven risk factor B. A possible risk factor C. No relationship D. Beneficial	B. A possible risk factor	5	5				
	Single	For couples with	B. Limit alcohol consumption	5	5				

[illegible]

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possible risk factor for pregnancy loss and a proven risk factor for fetal problems (Fetal alcohol syndrome). Limiting alcohol consumption is advised.

These factors indicate the importance of managing certain lifestyle and behavioral elements to improve the chances of a successful pregnancy for couples experiencing RPL.

To prevent recurrent pregnancy loss through health behavior modifications, couples can adopt several strategies based on the provided guidelines:

**Age Awareness:** Women should be aware that the lowest risk of pregnancy loss is for those aged 20 to 35 years. Beyond 40, the risk increases significantly.

**Manage Stress:** While stress is associated with RPL, there's no direct evidence it causes pregnancy loss. However, managing stress can improve overall well-being and potentially influence pregnancy outcomes positively.

**Smoking Cessation:** Couples should be informed about the potential negative impacts of smoking on live birth chances. Quitting smoking is recommended to improve obstetric outcomes.

**Maintain Healthy Weight:** Women should aim for a normal BMI since maternal obesity or being significantly underweight is linked to obstetric complications and may negatively affect the chances of a live birth. Weight management can positively influence fertility outcomes and reduce complications.

**Limit Alcohol Consumption:** Excessive alcohol intake is a possible risk factor for pregnancy loss and a known risk factor for fetal problems. Limiting alcohol consumption is advised, and couples should be informed that moderate consumption has not been proven to cause pregnancy loss directly.

By adopting these health behavior modifications, couples can improve their chances of a successful pregnancy and

Common

Question  
How to prevent recurrent pregnancy loss through health behavior modifications?

5 5 5 4 32 13.51

		reduce the risk of RPL.										
Common Question	If advanced maternal age increase the risk of recurrent pregnancy loss?	<p>Yes, advanced maternal age increases the risk of recurrent pregnancy loss (RPL). The guidelines indicate that the risk of pregnancy loss is lowest for women aged 20 to 35 years and rapidly increases after the age of 40. This is important for the counseling and support provided to couples facing RPL challenges.</p> <p>Yes, recurrent pregnancy loss (RPL) is related to maternal weight. The guidelines indicate that maternal obesity or being significantly underweight is associated with obstetric complications and can negatively impact the chances of a live birth. Achieving a healthy normal range body mass index (BMI) is recommended for improving fertility outcomes and reducing complications during pregnancy and birth.</p> <p>Yes, there is an association between alcohol consumption and pregnancy loss, as well as fetal problems. Given your history of recurrent pregnancy loss (RPL) and the current pregnancy at the age of 42, it's especially important to consider factors that might improve your chances of a successful pregnancy.</p>	5	5	5	5	50	12.7				
Common Question	Is recurrent pregnancy loss related to maternal weight?	<p>Regarding alcohol consumption during pregnancy, the recommendation is to limit alcohol consumption due to the possible risks it poses to the pregnancy. While the specific guidelines may vary, the safest approach, according to many health organizations, is to avoid alcohol entirely during pregnancy. There is no established safe upper limit for daily alcohol consumption during pregnancy because any amount could potentially affect the pregnancy and the developing fetus.</p> <p>Given your history and current situation, it would be wise to avoid alcohol during your pregnancy. It's also a good idea to consult with your healthcare provider for personalized advice and support throughout your pregnancy, including discussions on how to optimize your health and well-being for the best possible pregnancy outcome.</p>	5	5	5	4	14	16.04				
Clinical Case	I am 42 years old and 10 weeks pregnant. I have excessive alcohol consumption and twice pregnancy loss before. Is there any association? Should I limit alcohol consumption during pregnancy? What is the safe upper limit for daily alcohol consumption during pregnancy?	<p>Regarding alcohol consumption during pregnancy, the recommendation is to limit alcohol consumption due to the possible risks it poses to the pregnancy. While the specific guidelines may vary, the safest approach, according to many health organizations, is to avoid alcohol entirely during pregnancy. There is no established safe upper limit for daily alcohol consumption during pregnancy because any amount could potentially affect the pregnancy and the developing fetus.</p> <p>Given your history and current situation, it would be wise to avoid alcohol during your pregnancy. It's also a good idea to consult with your healthcare provider for personalized advice and support throughout your pregnancy, including discussions on how to optimize your health and well-being for the best possible pregnancy outcome.</p>	5	5	4	5	25	15.68				



Diagnosis	Clinical Case	I am overweight and have experienced three times pregnancy loss. Is obesity a risk for my recurrent miscarriages? Should I have a weight loss ?	Yes, obesity is recognized as a risk factor for recurrent pregnancy loss (RPL). Studies have shown that maternal obesity is associated with an increased risk of obstetric complications, which can negatively impact the chances of a live birth. Working towards achieving a healthy normal range Body Mass Index (BMI) is recommended for improving fertility outcomes and reducing complications during pregnancy and birth. Therefore, considering weight loss through healthy diet and exercise, if you are overweight, could be beneficial for improving your chances of a successful pregnancy in the future. It's advisable to consult with a healthcare provider for personalized advice and a safe weight management plan.	5	5	4	4	24	16.45
	Single Choice	What is the recommendation for thyroid screening in women with recurrent pregnancy loss(RPL)? A) Only if there are symptoms of thyroid disorder B) Recommended in all cases C) After two pregnancy losses D) Not recommended	B) Recommended in all cases	5	5				
	Single Choice	For thyroid screening in women with recurrent pregnancy loss(RPL), which of the following are recommended? A. Thyroid-stimulating hormone (TSH). B. Thyroid peroxidase (TPO) antibodies. C. Thyroid-stimulating hormone (TSH) and Thyroxine (T4). D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.	D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.	5	5				
	Single Choice	For women with recurrent pregnancy loss(RPL), when is screening recommended for antiphospholipid antibodies? A. After the first pregnancy loss. B. After two pregnancy losses. C. After three pregnancy losses. D. Only in the presence of additional risk factors for thrombophilia.	B. After two pregnancy losses.	5	5				
	Single Choice	For women with recurrent pregnancy loss(RPL), which of the following assessments is not recommended to improve the prognosis of the next pregnancy? A. Assessment of Polycystic Ovary Syndrome (PCOS). B. Fasting insulin and glucose testing. C. Ovarian reserve testing. D. All of the above.	D. All of the above.	5	5				
	Single	For couple with recurrent pregnancy loss(RPL), what is recommended for genetic analysis of pregnancy tissue	B) Array-based Comparative Genomic Hybridization (array-CGH)	5	5				

Choice	following pregnancy loss? A)subtelomere multiplex ligation-dependent probe amplification (MLPA) B) Array-based Comparative Genomic Hybridization (array-CGH) C) quantitative fluorescence polymerase chain reaction (QF-PCR) D) karyotyping				
Single Choice	What is the preferred technique for evaluating the uterus in women with recurrent pregnancy loss(RPL)? A)Hysterosalpingography (HSG) B) Sonohysterography (SHG) C) Transvaginal 3D ultrasound (US) D) MRI	C) Transvaginal 3D ultrasound (US)	5	5	
Single Choice	Which of the following is not recommended for routine testing in women with recurrent pregnancy loss(RPL)? A) Human Leukocyte Antigen (HLA) determination B) Thyroid screening C) Transvaginal 3D ultrasound (US) D) Sonohysterography (SHG)	A) Human Leukocyte Antigen (HLA) determination	5	5	
Multiple Choice	Regarding diagnostic investigations in recurrent pregnancy loss(RPL), which statement is correct? A. They can be tailored based on medical and family history. B. Genetic analysis of pregnancy tissue is mandatory for all patients. C. Genetic analysis of pregnancy tissue is not routinely recommended. D. Parental karyotyping should be performed for all patients.	A. They can be tailored based on medical and family history.	3	3	
Multiple Choice	Which of the following investigations can be used for recurrent pregnancy loss(RPL) diagnosis? A. Medical and family history analysis B. Genetic analysis C. Antiphospholipid antibody screening D. Thyroid function tests	A, B, C, D	5	5	
Multiple Choice	The prognosis for women with recurrent pregnancy loss(RPL) is recommended to be based on which factors? A. maternal age B.maternal age at first pregnancy C. Number of previous pregnancy losses D. Complete pregnancy history	A, C, D	5	5	

Short Essay Questions	Multiple Choice	For women with recurrent pregnancy loss(RPL), which tests are recommended? A. Thyroid function screening B. Ovarian reserve testing C. Luteal phase insufficiency testing D. Uterine anatomy assessment	A, D	5	5						
			For couples with recurrent pregnancy loss (RPL), the following imageological examinations are recommended:								
			Uterine anatomy Evaluation: It is recommended that all women with RPL should have a uterine anatomy evaluation in order to make recommendations based on relevance to treatment decisions.								
			Transvaginal 3D ultrasound (US): This is the preferred technique to evaluate the uterus due to its high sensitivity and specificity. It helps distinguish between septate uterus and bicorporeal uterus (formerly known as AFS bicornuate uterus) with a normal cervix.								
	Comm on Question	For couples with recurrent pregnancy loss, which imageological examinations should be taken?	Sonohysterography (SHG): This can be used to evaluate uterine morphology when 3D ultrasound is not available or when tubal patency needs to be investigated. SHG is more accurate than hysterosalpingography (HSG) in diagnosing uterine malformations.	5	5	5	5	15	17.1		
			Magnetic Resonance Imaging (MRI): Although not recommended as the first line option due to higher costs and no diagnostic benefit over 3D US, MRI can be used where 3D US is not available to assess uterine malformations.								
			2D ultrasound: This can be used to rule out adenomyosis in women with RPL.								
			These examinations are crucial for a thorough assessment of uterine anatomy and to identify any malformations that may contribute to recurrent pregnancy loss.								
	Comm on	In the diagnosis of recurrent pregnancy loss, which is the preferred imageological examination for women?	In the diagnosis of recurrent pregnancy loss (RPL), the preferred imageological examination for women is transvaginal 3D ultrasound (US).	5	5	2	2	9	16.66		

Question	Response	Yes	No	Don't know	Refused	Other	Total
Common Question	Is there any association between family history and recurrent pregnancy loss?	5	5	4	4	0	24.84
Common Question	What kinds of genetic analysis of pregnancy tissue are routinely recommended in the diagnosis of recurrent pregnancy loss(RPL)?	5	5	3	3	0	19.67
Common Question	Are serum immunological tests recommended in the diagnosis of recurrent pregnancy loss? What kinds of immunological tests should be taken?	5	5	5	5	10	17.91

conditional recommendation. The measure of antinuclear antibodies may be due to the association with RPL, and there is some evidence that the presence of ANA may negatively affect prognosis.

In addition, several immunological tests are not recommended in the diagnosis of RPL, including human leukocyte antigen (HLA) assays, anti-HY antibody measurements, cytokine tests, natural killer (NK) cell tests, and anti-HLA antibody tests.

In summary, the recommended immunological tests are mainly anti-phospholipid antibody screening, beta-2 glycoprotein I antibodies, and in some cases, anti-nuclear antibody testing. These tests help identify possible causes of recurrent miscarriage and may guide subsequent treatment options.

For women with recurrent pregnancy loss (RPL), thrombophilia screening is not routinely recommended unless they have additional risk factors for thrombophilia. The guidance suggests a conditional stance on this issue, indicating that there's no strong evidence or a clear association between hereditary thrombophilia and RPL, hence the screening should be considered based on individual risk factors and clinical judgment.

For women with recurrent pregnancy loss (RPL), the recommended endocrinological screenings focus on thyroid function, specifically testing for Thyroid Stimulating Hormone (TSH) and Thyroid Peroxidase (TPO) antibodies. If TSH levels are abnormal, further thyroxine (T4) testing should also be performed. These tests are recommended due to the high prevalence of subclinical hypothyroidism and thyroid autoimmunity in women with RPL, and the potential for treatment options.

Other metabolic or endocrinological tests, such as for Polycystic Ovary Syndrome (PCOS), fasting insulin and glucose levels, prolactin (except in the presence of clinical symptoms of hyperprolactinemia), ovarian reserve, luteal phase insufficiency, androgens, Luteinizing Hormone (LH),

Comm on Questi on	Should women with recurrent pregnancy loss take a thrombophilia screening?		5	4	4	4	12	18.92
Comm on Questi on	Should women with recurrent pregnancy loss screen for metabolic or endocrinological tests? Which tests are recommended?		5	5	5	5	0	26.68

Treat ment	Clinical Case	I am 29 years old and have three times pregnancy loss. My husband is an alcoholic and obese. Does my husband's lifestyle promote my pregnancy loss? Is it necessary for him to limit consumption and lose weight?	and homocysteine plasma levels, are not recommended as routine screenings for women with RPL. These recommendations are based on the current evidence or lack thereof regarding their association with RPL and the impact on treatment or prognosis. Yes, your husband's lifestyle factors, such as alcohol consumption and obesity, could potentially contribute to pregnancy loss. Studies suggest a link between a male partner's lifestyle and sperm quality, which can affect pregnancy outcomes. It would be beneficial for him to limit alcohol consumption and achieve a healthier weight, as improving these factors might enhance fertility outcomes and reduce the risk of further pregnancy loss.	5	5	3	4	34	13.92
	Single Choice	What is the recommendation for women with hereditary thrombophilia and recurrent pregnancy loss(RPL)? A) Use antithrombotic prophylaxis B) Avoid antithrombotic prophylaxis unless for VTE prevention or research C) Administer aspirin D) Undergo genetic testing	B) Avoid antithrombotic prophylaxis unless for VTE prevention or research	5	5				
	Single Choice	What is the recommendation for women with recurrent pregnancy loss(RPL) and endometrial polyps? A) Regular monitoring with MRI B)Surgery increases the chance of a live birth in women with RPL C) Surgery increases the chance of miscarriage in women with RPL D) Surgical removal of endometrial polyps is not recommended	D) Surgical removal of endometrial polyps is not recommended	5	5				
	Single Choice	What is the recommendation regarding vaginal progesterone in women with recurrent pregnancy loss(RPL)? A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy B) Not recommended in any case of RPL C) Only recommended for women with less than 3 pregnancy losses D) Recommended for all women with RPL	A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy	5	5				

Single Choice	Which of the following is true about multivitamin supplements consumption in women with recurrent pregnancy loss(RPL)?	A) Women with RPL should be advised on multivitamin supplements that are safe in pregnancy B) Multivitamin supplements are not recommended for women with RPL C) Multivitamin supplements are risk factors for RPL D) Vitamins A and E can be taken for women with RPL	A) Women with RPL should be advised on multivitamin supplements that are safe in pregnancy	5	5					
	Multiple Choice	What factors are recommended to base prognosis on for women with recurrent pregnancy loss(RPL)? A) Woman's age B) Complete pregnancy history C) Number of previous pregnancy losses D) Live births and their sequence	A, B, C, D	5	5					
	Multiple Choice	For women with recurrent pregnancy loss(RPL), what can prognostic tools (Kolte & Westergaard) be used for? A) Providing an estimate of subsequent chance of live birth B) Providing an estimate of adverse pregnancy outcome C) Providing information on possible treatments D) All of the above	A	3	3					
	Multiple Choice	Which treatment methods are not recommended for women with recurrent pregnancy loss (RPL)? A.Progesterone B. Lymphocyte immunization therapy C. Repeated and high doses of Intravenous immunoglobulin (Ivlg) D. Glucocorticoids	B、 D	5	5					
Short on Comm t on E s	Should women with recurrent pregnancy loss(RPL) be treated with heparin or aspirin during pregnancy?	For women with recurrent pregnancy loss (RPL), the guidelines suggest the use of heparin or low-dose aspirin in specific cases. For women who meet the laboratory criteria for Antiphospholipid Syndrome (APS) and have a history of three or more pregnancy losses, the administration of low-dose aspirin (75 to 100 mg/day) starting before conception and a prophylactic dose of heparin (either Unfractionated heparin [UFH] or Low Molecular Weight Heparin [LMWH]) starting from the date of a positive pregnancy test is suggested over no		5	5	5	5	22	18.63	

treatment. This recommendation is based on evidence suggesting that a combination of heparin and aspirin improves live birth rates in women with APS and RPL. For women who have had two pregnancy failures and APS, anticoagulation therapy is recommended only in the context of a clinical study.

For women with unexplained RPL, the use of heparin or low-dose aspirin is not recommended. This is because there is no evidence to suggest that heparin alone, aspirin alone, or their combination improves the live birth rate in cases of unexplained RPL. Therefore, whether to take heparin or aspirin during pregnancy should be decided based on a woman's specific medical condition and history, in particular whether it meets the diagnostic criteria for APS.

For women with uterine abnormalities and recurrent miscarriage (RPL), the recommendation for surgical treatment depends on the specific uterine condition. According to the guidelines:

Hysteroscopic septectomy: In women with uterine septum and RPL, a small randomized controlled trial (RCT) showed that hysteroscopic septectomy did not reduce the rate of pregnancy loss. Therefore, surgery is not recommended in this case.

Metroplasty: For women with a bicornis uterus (pre-AFS bicornis) and RPL with a normal cervix, there is currently no high quality research supporting surgery to improve live birth rates or reduce miscarriage rates. Therefore, uterine reconstruction surgery is not recommended.

Uterine reconstruction: Uterine reconstruction surgery is not recommended for women with half uterus (pre-AFS unicorned uterus) and RPL.

For women with a bicorned uterus and a double cervix (pre-AFS uterus dichotomy) and RPL, there is a lack of sufficient evidence to support metroplasty.

Comm  
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on

Should women with uterine abnormalities and recurrent pregnancy loss be treated with surgery?

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Clinical  
Case

I am 12 weeks pregnant and have been diagnosed with recurrent pregnancy loss(RPL). In my thyroid function tests, the TSH level was within the normal reference range. But my thyroid antibody is positive. How should I be followed during pregnancy?

Hysteroscopic surgical removal of endometrial polyps or uterine submucosal fibromas: There is no evidence that these conditions are associated with RPL, nor is there evidence that surgery improves live birth rates in these women. Therefore, this procedure is not recommended.

Surgical removal of intrauterine fibroids: Surgical removal of intrauterine fibroids is not recommended in women with RPL. There is also a lack of evidence to recommend surgery for fibromas that distort the uterine cavity.

Surgical removal of intrauterine adhesions: Although small observational studies have shown that surgery may reduce the rate of miscarriage in women with RPL, uterine surgery is a known cause of adhesions, and treatment should attempt to prevent recurrence of adhesions. Therefore, the surgical treatment of this condition is also conditional, and the advantages and disadvantages need to be weighed.

In summary, for women with RPL with specific uterine abnormalities, surgery is not recommended in most cases unless further evidence supports its effect. For treatment decisions in specific cases, it is recommended to consult a professional medical provider and consider the individual's specific situation for evaluation and discussion.

Given your diagnosis of recurrent pregnancy loss (RPL) and the presence of positive thyroid antibodies with a normal TSH level, it is important to manage your condition carefully during pregnancy. The presence of thyroid antibodies indicates an autoimmune response that can affect thyroid function and potentially impact pregnancy outcomes. Here's a general approach based on the guidelines:

Close Monitoring: Your healthcare provider should closely monitor your thyroid function throughout the pregnancy. Even if your TSH is currently within the normal range, the presence of thyroid antibodies can increase the risk of developing thyroid dysfunction during pregnancy.

4 5 5 5 22 15.26

**Follow-Up Thyroid Function Tests:** Regular follow-up tests to monitor your TSH and free Thyroxine (T4) levels are recommended to ensure they remain within the pregnancy-specific reference ranges. The frequency of these tests might be higher compared to pregnant women without thyroid antibodies.

**Consideration for Levothyroxine Treatment:** Some guidelines suggest that pregnant women with positive thyroid antibodies, even with normal thyroid function, may benefit from low-dose Levothyroxine therapy. This is because treatment may reduce the risk of adverse pregnancy outcomes associated with thyroid autoimmunity. The decision to start treatment should be personalized and discussed with your healthcare provider, considering the potential benefits and risks.

**Additional Monitoring:** Beyond thyroid function, your healthcare provider might recommend additional monitoring throughout the pregnancy. This could include more frequent ultrasounds to check the baby's development and other tests as deemed necessary based on your medical history and current health status.

**Collaborative Care:** Management of your pregnancy may involve a multidisciplinary team, including your primary obstetrician, an endocrinologist specialized in thyroid disorders, and possibly a maternal-fetal medicine specialist. This ensures a comprehensive approach to your care.

**Lifestyle and Nutrition:** Focus on maintaining a healthy lifestyle and diet that supports thyroid health and pregnancy. Adequate intake of iodine is important, but avoid excessive intake, especially from supplements, unless advised by your healthcare provider.

It is crucial to have open communication with your healthcare team about your concerns and treatment options. Each pregnancy is unique, and your care plan

Clinical Case	I have been diagnosed with recurrent pregnancy loss(RPL). And I am pregnant again now. My thyroid function tests, and the TSH level was within the normal reference range. But my thyroid antibody is positive. Should I be treated with levothyroxine during pregnancy?	<p>should be tailored to your specific needs and medical history.</p> <p>Based on the guidelines provided, if your thyroid stimulating hormone (TSH) level is within the normal reference range and you have tested positive for thyroid antibodies, treatment with levothyroxine is not recommended during pregnancy. The evidence shows that levothyroxine treatment does not increase the chance of a live birth in women with a history of recurrent pregnancy loss (RPL) and thyroid autoimmunity, when TSH levels are normal.</p> <p>Yes, it is generally safe for you to use multivitamin supplements during pregnancy, especially if you have a history of recurrent pregnancy loss (RPL). However, it's important to choose supplements that are safe for pregnancy. The guideline development group (GDG) advises on ensuring the multivitamin supplements you take are safe for pregnancy, due to the potential harms associated with some vitamins, such as vitamin A and vitamin E, in high doses.</p>	4	4	4	4	20	18.79
Clinical Case	I am 12 weeks pregnant and want to use multivitamin supplements. I have been diagnosed with recurrent pregnancy loss. Is it safe for me? What multivitamin supplements should I take?	<p>When selecting a multivitamin, look for ones specifically formulated for pregnancy. These typically contain folic acid, which is important for the baby's development and can help prevent neural tube defects, along with other vitamins and minerals at levels deemed safe for pregnancy. Iron, calcium, and vitamin D are also important nutrients during pregnancy.</p> <p>Always consult your healthcare provider before starting any new supplement to ensure it's appropriate for your specific health needs and does not interfere with any other medications you may be taking.</p>	5	5	4	4	26	16.03

**Table 5.** Scores for Claude-3 after training

Cont ent	Question Type	Question	Answers	Accuracy (investigat or A)	Accu racy (inve stiga tor B)	Comp rehen sivene ss (invest igator A)	Com preh ensi vene ss (inve stiga tor B)	Fle sch Re adi ng Ea se	Fles ch- Kinc aid Gra de Lev el
Prev entio n	Single Choice	Women should be sensitively informed that the risk of pregnancy loss is lowest in women aged: A. 20 to 25 years B. 20 to 35 years C. 30 to 40 years D. Over 40 years	B	5	5				
	Single Choice	Women should be informed that the risk of pregnancy loss rapidly increases after the age of: A. 35 years B. 40 years C. 45 years D. 50 years	B	5	5				
	Single Choice	Regarding the association between stress and recurrent pregnancy loss (RPL), which statement is correct? A. Stress is a direct cause of RPL B. Stress is associated with RPL, but there is no evidence that it is a direct cause C. Stress has no association with RPL D. Stress increases the chances of pregnancy	B. Stress is associated with RPL, but there is no evidence that it is a direct cause.	5	5				
	Single Choice	For couples with recurrent pregnancy loss(RPL), what is maternal obesity or being significantly underweight associated with? A. Obstetric complications B. Chances of a live birth C. General health issues D. All of the above	D. All of the above	5	5				
	Single Choice	For couples with recurrent pregnancy loss(RPL), which recommendation is suggested? A. Maintain low body weight B. Maintain a healthy normal range BMI C. Gain weight D. Make no changes	B. Maintain a healthy normal range BMI	5	5				
	Single Choice	What is the relationship between excessive alcohol consumption and recurrent pregnancy loss(RPL)? A. A proven risk factor B. A possible risk factor C. No	B. Excessive alcohol consumption is considered a possible risk factor for recurrent pregnancy loss (RPL).	5	5				

Single Choice	relationship D. Beneficial For couples with recurrent pregnancy loss(RPL), what is the correct advice regarding alcohol consumption? A. Increase alcohol intake B. Limit alcohol consumption C. Consume specific types of alcohol D. No advice		B. Limit alcohol consumption	5	5					
	Multiple Choice	Which statements are correct regarding age and the risk of pregnancy loss? A. The risk of pregnancy loss is lowest in women aged 20 to 35 years B. The risk of pregnancy loss rapidly increases after the age of 40 C. Stress is a direct cause of recurrent pregnancy loss(RPL) D. There is no evidence that stress is a direct cause of pregnancy loss	A, B, D	5	5					
Multiple Choice	Regarding alcohol consumption and recurrent pregnancy loss(RPL), which statements are correct? A. Excessive alcohol consumption is a possible risk factor for pregnancy loss B. Excessive alcohol consumption is a proven risk factor for fetal problems C. Couples with RPL do not need to limit their alcohol consumption D. Couples with RPL should limit their alcohol consumption		A、B、D	5	5					
Short Question	Common Question	What is the defination of recurrent pregnancy loss?	According to the details provided, the guideline development group (GDG) concludes to use the term "Recurrent Pregnancy Loss (RPL)". The definition of RPL is given as:	5	5	3	3	40	13.1	
		A diagnosis of Recurrent Pregnancy Loss (RPL) could be considered after the loss of two or more pregnancies. Based on the guideline, the following behavioral and lifestyle factors are mentioned in relation to recurrent pregnancy loss (RPL):								
		What are the behavioral and lifestyle factors in recurrent pregnancy loss?	Maternal age: The risk of pregnancy loss is lowest in women aged 20 to 35 years and rapidly increases after the age of 40.	5	5	5	4	36	14.1	
		Stress: While stress is associated with RPL, there is no evidence that stress is a direct cause of pregnancy loss.								
		Smoking: Smoking could have a negative impact on the chances of a live birth, and cessation of smoking is								

recommended for couples with RPL.

Maternal weight: Maternal obesity or being significantly underweight is associated with obstetric complications and could have a negative impact on the chances of a live birth and general health. Striving for a healthy normal range body mass index (BMI) is recommended.

Alcohol consumption: Excessive alcohol consumption is a possible risk factor for pregnancy loss and a proven risk factor for fetal problems. Couples with RPL should be advised to limit alcohol consumption.

In summary, the behavioral and lifestyle factors mentioned in the guideline for recurrent pregnancy loss include advanced maternal age, smoking, maternal weight (obesity or being underweight), and excessive alcohol consumption.

Based on the provided guideline, here are the recommended health behavior modifications to help prevent recurrent pregnancy loss (RPL):

Women should aim to conceive between the ages of 20-35 years when the risk of pregnancy loss is lowest.

Stop smoking, as smoking can negatively impact the chances of a live birth.

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How to prevent recurrent pregnancy loss through health behavior modifications?

Achieve and maintain a healthy body mass index (BMI) in the normal range, as being overweight or underweight is associated with obstetric complications and reduced chances of a live birth.

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Limit alcohol consumption, as excessive alcohol intake is a possible risk factor for pregnancy loss and can cause fetal problems like fetal alcohol syndrome.

While stress is associated with RPL, couples should be informed that there is no evidence that stress directly causes pregnancy loss. However, addressing psychosocial

needs and providing support can be beneficial.

The key health behavior modifications recommended are maintaining a healthy age for conception, cessation of smoking, achieving a normal BMI through proper diet and exercise, and limiting alcohol intake. Addressing stress and emotional needs is also important, though stress itself is not considered a direct cause of RPL.

Yes, according to the guideline details provided:

It strongly recommends informing women that the risk of pregnancy loss is lowest between ages 20-35 years.

It strongly recommends informing women that the risk of pregnancy loss rapidly increases after age 40.

So advanced maternal age, especially over 40 years, is stated as a risk factor that increases the risk of recurrent pregnancy loss. In summary, age is an important risk factor for recurrent miscarriage, and the risk of miscarriage rises rapidly with age, especially after the age of 40. Therefore, it is necessary for women to understand and be alert to this risk.

Yes, according to the guideline, maternal obesity or being significantly underweight is associated with obstetric complications and could have a negative impact on the chances of a live birth.

Specifically, the guideline states:

Couples with recurrent pregnancy loss (RPL) should be informed that maternal obesity or being significantly underweight is associated with obstetric complications and could have a negative impact on their chances of a live birth and on their general health. (Strong recommendation)

Striving for a healthy normal range body mass index (BMI) is recommended. (Good practice point)

So maternal weight, both obesity and being underweight, is

Common  
Question

If advanced maternal age increase the risk of recurrent pregnancy loss?

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Common  
Question

Is recurrent pregnancy loss related to maternal weight?

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		identified as a risk factor for recurrent pregnancy loss. The guideline recommends striving for a normal BMI. Based on the guide provided, there are a few relevant points for your situation:							
		Age and risk of pregnancy loss: The guide strongly recommends informing women that the risk of pregnancy loss rapidly increases after age 40 (you are 42). This means you may have a higher risk of pregnancy loss due to your age.							
		Alcohol consumption and pregnancy loss: The guide strongly recommends informing couples that excessive alcohol consumption is a possible risk factor for pregnancy loss and a proven risk factor for fetal problems like fetal alcohol syndrome.							
Clinical Case	I am 42 years old and 10 weeks pregnant. I have excessive alcohol consumption and twice pregnancy loss before. Is there any association? Should I limit alcohol consumption during pregnancy? What is the safe upper limit for daily alcohol consumption during pregnancy?	Recommendation on alcohol consumption: The guide provides a good practice point (GPP) advising couples with RPL to limit alcohol consumption during pregnancy, although it does not specify a safe upper limit.							
		In summary, given your age, history of previous pregnancy losses, and excessive alcohol consumption, there is an association with increased risk of pregnancy loss and potential fetal problems. The guide recommends limiting alcohol consumption during pregnancy, although it does not provide a specific safe upper limit. The general advice would be to abstain from alcohol or consume very minimal amounts during pregnancy to minimize risks. Based on the guide provided, obesity is a risk factor for recurrent miscarriage (RPL). The guideline states:	5	5	5		5	41	11.69
Clinical Case	I am overweight and have experienced three times pregnancy loss. Is obesity a risk for my recurrent miscarriages? Should I have a weight loss ?	Couples should be informed that maternal obesity or underweight are both linked to pregnancy complications and can negatively impact their chances of a live birth and overall health. (Highly recommended)							
		It is recommended to strive to maintain a healthy normal body mass index (BMI) range. (Good Practice							
			5	5	5		5	47	10.16



Recommendations)

Therefore, if you are overweight, losing weight, as recommended by the guidelines, can be beneficial for both reducing the risk of repeated miscarriages and improving your overall health. Maintaining a healthy weight is not only beneficial for pregnancy, but also for the entire pregnancy and delivery.

Of course, weight loss needs to be reasonable and gradual. You can seek the guidance of a professional to develop a weight loss plan that works for you. It's also important to stay positive. Believe that by conditioning your body, your fertility will improve.

Diagnosis	Single Choice	What is the recommendation for thyroid screening in women with recurrent pregnancy loss(RPL)? A) Only if there are symptoms of thyroid disorder B) Recommended in all cases C) After two pregnancy losses D) Not recommended	B) Recommended in all cases	5	5
	Single Choice	For thyroid screening in women with recurrent pregnancy loss(RPL), which of the following are recommended? A. Thyroid-stimulating hormone (TSH). B. Thyroid peroxidase (TPO) antibodies. C. Thyroid-stimulating hormone (TSH) and Thyroxine (T4). D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.	D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.	5	5
	Single Choice	For women with recurrent pregnancy loss(RPL), when is screening recommended for antiphospholipid antibodies? A. After the first pregnancy loss. B. After two pregnancy losses. C. After three pregnancy losses. D. Only in the presence of additional risk factors for thrombophilia.	B. After two pregnancy losses	5	5
	Single Choice	For women with recurrent pregnancy loss(RPL), which of the following assessments is not recommended to improve the prognosis of the next pregnancy? A. Assessment of Polycystic Ovary Syndrome (PCOS). B. Fasting insulin and glucose testing. C. Ovarian reserve testing. D. All of the above.	D. All of the above.	5	5

Single Choice	<p>For couple with recurrent pregnancy loss(RPL), what is recommended for genetic analysis of pregnancy tissue following pregnancy loss?</p> <p>A)subtelomere multiplex ligation-dependent probe amplification (MLPA)</p> <p>B) Array-based Comparative Genomic Hybridization (array-CGH)</p> <p>C) quantitative fluorescence polymerase chain reaction (QF-PCR)</p> <p>D) karyotyping</p>	B) Array-based Comparative Genomic Hybridization (array-CGH)	5	5
Single Choice	<p>What is the preferred technique for evaluating the uterus in women with recurrent pregnancy loss(RPL)?</p> <p>A)Hysterosalpingography (HSG)</p> <p>B) Sonohysterography (SHG)</p> <p>C) Transvaginal 3D ultrasound (US)</p> <p>D) MRI</p>	C) Transvaginal 3D ultrasound (US)	5	5
Single Choice	<p>Which of the following is not recommended for routine testing in women with recurrent pregnancy loss(RPL)?</p> <p>A) Human Leukocyte Antigen (HLA) determination</p> <p>B) Thyroid screening</p> <p>C) Transvaginal 3D ultrasound (US)</p> <p>D) Sonohysterography (SHG)</p>	A) Human Leukocyte Antigen (HLA) determination	5	5
Multiple Choice	<p>Regarding diagnostic investigations in recurrent pregnancy loss(RPL), which statement is correct? A. They can be tailored based on medical and family history. B. Genetic analysis of pregnancy tissue is mandatory for all patients. C. Genetic analysis of pregnancy tissue is not routinely recommended. D. Parental karyotyping should be performed for all patients.</p>	A,C	5	5
Multiple Choice	<p>Which of the following investigations can be used for recurrent pregnancy loss(RPL) diagnosis? A. Medical and family history analysis B. Genetic analysis C. Antiphospholipid antibody screening D. Thyroid function tests</p>	A, B, C, D	5	5
Multiple Choice	<p>The prognosis for women with recurrent pregnancy loss(RPL) is recommended to be based on which factors? A. maternal age B.maternal age at first pregnancy C. Number of previous pregnancy losses D.</p>	A, C, D	5	5

S h o r t	Multiple Choice	Complete pregnancy history For women with recurrent pregnancy loss(RPL), which tests are recommended? A. Thyroid function screening B. Ovarian reserve testing C. Luteal phase insufficiency testing D. Uterine anatomy assessment	A, D	5	5						
			According to the guideline, all women with recurrent pregnancy loss (RPL) should have an assessment of the uterine anatomy (recommendation #33). The preferred technique recommended is:								
E s s a y	Comm on Questi on	For couples with recurrent pregnancy loss, which imageological examinations should be taken?	Transvaginal 3D ultrasound, which has high sensitivity and specificity in detecting uterine malformations like septate uterus and distinguishing it from bicorporeal uterus (recommendation #34).								
			If 3D ultrasound is not available, sonohysterography (SHG) is recommended as it is more accurate than hysterosalpingography (HSG) in diagnosing uterine malformations (recommendation #35).	5	5	5	5	12	17.16		
C u e s t i o n	Comm on Questi on	In the diagnosis of recurrent pregnancy loss, which is the preferred imageological examination for women?	MRI is not recommended as the first line option, but can be used if 3D ultrasound is not available (recommendation #37).								
			2D ultrasound could also be done to rule out adenomyosis (recommendation #38).								
			So in summary, the guideline strongly recommends evaluating the uterine anatomy in all women with RPL, preferably using transvaginal 3D ultrasound as the first choice imaging modality.								
			According to the guideline, the preferred technique to evaluate the uterus in women with recurrent pregnancy loss (RPL) is transvaginal 3D ultrasound (US). Specifically, recommendation #34 states:								
			"The preferred technique to evaluate the uterus is transvaginal 3D ultrasound (US), which has a high sensitivity and specificity, and can distinguish between septate uterus and bicorporeal uterus (former AFS	5	5	5	4	11	17.08		

bicornuate uterus) with normal cervix."

So transvaginal 3D ultrasound is recommended as the preferred imaging modality for assessing uterine anatomy and any potential malformations in women diagnosed with RPL.

According to the guideline, there is no specific recommendation mentioned about assessing family history for association with recurrent pregnancy loss (RPL).

However, the guideline does state:

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Is there any association between family history and recurrent pregnancy loss?

"Medical and family history could be used to tailor diagnostic investigations in RPL."

This suggests that family history may be considered when determining which diagnostic tests to perform for couples with RPL, but the guideline does not explicitly state whether there is an association between family history and RPL itself.

You're right, for couples experiencing recurrent pregnancy loss, routine genetic analysis is not typically recommended as a first-line approach. However, in certain cases, genetic testing can be considered after a thorough evaluation and counseling. Here are the key points you mentioned:

Genetic analysis of pregnancy tissue (products of conception):

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What kinds of genetic analysis of pregnancy tissue are routinely recommended in the diagnosis of recurrent pregnancy loss(RPL)?

This is not routinely recommended but can be performed for explanatory purposes, to identify potential genetic causes of the pregnancy loss.

Array-based Comparative Genomic Hybridization (array-CGH) is the recommended technique for analyzing the pregnancy tissue, as it has a reduced risk of maternal cell contamination compared to other methods.

Parental karyotyping:

Karyotyping (chromosomal analysis) of the parents can be considered after an individual risk assessment.

It can be done for diagnostic purposes (to identify potential chromosomal abnormalities in the parents that may

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5 5 4 4 13 15.96

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Are serum immunological tests recommended in the diagnosis of recurrent pregnancy loss? What kinds of immunological tests should be taken?

contribute to recurrent pregnancy loss) or for explanatory purposes (to understand the cause of the pregnancy losses).

It's important to note that genetic testing should be considered in the context of a comprehensive evaluation, taking into account the couple's medical history, age, and other risk factors. Genetic counseling is also recommended to ensure proper interpretation of the results and to discuss the implications for future pregnancies and reproductive options.

According to these guidelines, the following serum immunological tests are recommended for the diagnosis of recurrent miscarriage (RPL) :

Screening for anti-phospholipid antibodies (aPL antibodies), including lupus anticoagulants (LA) and anti-cardiolipin antibodies (ACA IgG and IgM), is performed after two miscarriages. This helps to discover what may be causing miscarriage and take treatment to prevent it in the next pregnancy (highly recommended).

Screening for  $\beta 2$  glycoprotein I antibodies (a $\beta 2$ GPI) may be considered after two miscarriages. Treatment has been shown to improve live birth rates in patients with a $\beta 2$ GPI positive RPL (recommended by good practice).

An antinuclear antibody (ANA) test may be considered to explain the cause of RPL. A meta-analysis has shown that ANA is associated with RPL (conditional recommendation).

However, the guidelines do not recommend routine immunological testing for:

Natural killer (NK) cell test  
Anti-human leukocyte antigen (HLA) antibody test  
Cytokine test and cytokine polymorphism test  
Because of their weak association with RPL or technical challenges, these tests cannot be used to select immunotherapy options for patients with RPL.

5 5 5 5 26 13.78

		Overall, the guidelines recommend testing for aPL antibodies, aβ2GPI antibodies, and ANA in patients with RPL to detect potential immune causes, but do not recommend routine immunological testing. According to the guidelines provided, thrombophilia screening is not routinely recommended in women with recurrent pregnancy loss (RPL), unless there are additional risk factors for thrombophilia. Specifically:							
Comm on Questi on	Should women with recurrent pregnancy loss take a thrombophilia screening?	For women with RPL, we suggest not to screen for hereditary thrombophilia unless in the context of research, or in women with additional risk factors for thrombophilia Conditional There is no, or at best a weak, association between RPL and hereditary thrombophilia. So hereditary thrombophilia screening is only suggested in the context of research studies or if the woman has additional risk factors for thrombophilia, as there is no or at best a weak association between hereditary thrombophilia and RPL according to the guideline. Based on the guidelines provided, the following metabolic or endocrinological tests are recommended or not recommended in women with recurrent pregnancy loss (RPL):  Recommended:  Thyroid screening (TSH and TPO-antibodies) (Recommendation #24 - Strong) Abnormal TSH levels should be followed up by testing Thyroxine (T4) (Recommendation #25 - Strong) Not Recommended:  Screening for hereditary thrombophilia, unless in the context of research or in women with additional risk factors (Recommendation #14 - Conditional against) Prolactin testing in the absence of clinical symptoms of hyperprolactinemia (Recommendation #27 - Conditional against) Ovarian reserve testing (Recommendation #28 - Strong against)	5	4	5	4	16	17.88	
Comm on Questi on	Should women with recurrent pregnancy loss screen for metabolic or endocrinological tests? Which tests are recommended?		5	5	5	5	17	14.01	

Clinical  
Case

I am 29 years old and have three times pregnancy loss. My husband is an alcoholic and obese. Does my husband's lifestyle promote my pregnancy loss? Is it necessary for him to limit consumption and lose weight?

Luteal phase insufficiency testing (Recommendation #29 - Strong against)  
Androgen testing (Recommendation #30 - Strong against)  
Luteinizing Hormone (LH) testing (Recommendation #31 - Strong against)  
Homocysteine plasma level measurement (Recommendation #32 - Strong against)  
Assessment of Polycystic Ovary Syndrome (PCOS), fasting insulin, and fasting glucose (Recommendation #26 - Strong against)  
So in summary, thyroid function tests (TSH, TPO-antibodies, and T4 if TSH abnormal) are recommended, but most other metabolic/endocrine tests like prolactin, androgens, insulin, glucose are not recommended for routine evaluation of RPL according to these guidelines.

Based on the recommendations from the guideline, assessing the lifestyle factors of the male partner, including alcohol consumption and body weight, is recommended in couples with recurrent pregnancy loss (RPL). Specifically:

The guideline strongly recommends assessing lifestyle factors in the male partner, such as alcohol consumption, smoking, exercise pattern, and body weight (recommendation #39). This suggests that your husband's alcoholism and obesity could potentially contribute to the pregnancy losses.

There is evidence suggesting an association between lifestyle factors, including alcohol consumption and obesity, and sperm quality (as mentioned in the rationale for recommendation #39).

The guideline conditionally recommends considering assessing sperm DNA fragmentation for diagnostic purposes in couples with RPL (recommendation #40), as there is growing evidence of an association between sperm DNA damage and RPL. Your husband's lifestyle factors could potentially affect sperm DNA integrity.

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Therefore, based on these recommendations, it would be advisable for your husband to limit his alcohol consumption and work on weight loss, as these lifestyle factors may be contributing to the recurrent pregnancy losses you have experienced. Improving his lifestyle could potentially improve sperm quality and reduce the risk of further pregnancy losses.

Treat ment	Single Choice	What is the recommendation for women with hereditary thrombophilia and recurrent pregnancy loss(RPL)? A) Use antithrombotic prophylaxis B) Avoid antithrombotic prophylaxis unless for VTE prevention or research C) Administer aspirin D) Undergo genetic testing	B) Avoid antithrombotic prophylaxis unless for VTE prevention or research	5	5
	Single Choice	What is the recommendation for women with recurrent pregnancy loss(RPL) and endometrial polyps? A) Regular monitoring with MRI B)Surgery increases the chance of a live birth in women with RPL C) Surgery increases the chance of miscarriage in women with RPL D) Surgical removal of endometrial polyps is not recommended	D) Surgical removal of endometrial polyps is not recommended	5	5
	Single Choice	What is the recommendation regarding vaginal progesterone in women with recurrent pregnancy loss(RPL)? A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy B) Not recommended in any case of RPL C) Only recommended for women with less than 3 pregnancy losses D) Recommended for all women with RPL	A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy	5	5
	Single Choice	Which of the following is true about multivitamin supplements consumption in women with recurrent pregnancy loss(RPL)? A) Women with RPL should be advised on multivitamin supplements that are safe in pregnancy B) Multivitamin supplements are not recommended for women with RPL	A) Women with RPL should be advised on multivitamin supplements that are safe in pregnancy	5	5





when pregnancy is detected, over no treatment.  
So for women with recurrent pregnancy loss due to antiphospholipid syndrome, treatment with low-dose aspirin before conception and heparin once pregnant is a conditional recommendation based on evidence that it may improve live birth rates in this group.

In summary, heparin/aspirin is not recommended for unexplained RPL, but may be considered for RPL associated with antiphospholipid syndrome according to the provided recommendations.  
According to the guideline, the recommendations regarding surgical treatment for uterine abnormalities in women with recurrent pregnancy loss (RPL) are:

Only one small RCT showed no benefit of using hysteroscopic septum resection to reduce the rate of pregnancy loss. (Conditional recommendation)

Metroplasty (surgical reconstruction) is not recommended for bicorporeal uterus with normal cervix (former AFS bicornuate uterus) and RPL. (Strong recommendation against)

Uterine reconstruction is not recommended for hemi-uterus (former AFS unicornuate uterus) and RPL. (Strong recommendation against)

There is insufficient evidence in favor of metroplasty in women with bicorporeal uterus and double cervix (former AFS didelphic uterus) and RPL. (Conditional recommendation)

There is insufficient evidence supporting hysteroscopic removal of submucosal fibroids or endometrial polyps in women with RPL. (Conditional recommendation)

Surgical removal of intramural fibroids is not recommended in women with RPL. There is insufficient evidence to recommend removing fibroids that distort the uterine

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Should women with uterine abnormalities and recurrent pregnancy loss be treated with surgery?

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Clinical  
Case

I am 12 weeks pregnant and have been diagnosed with recurrent pregnancy loss(RPL). In my thyroid function tests, the TSH level was within the normal reference range. But my thyroid antibody is positive. How should I be followed during pregnancy?

cavity. (Conditional recommendation)

In summary, the guideline does not generally recommend surgical treatment for uterine abnormalities in women with RPL, except it provides conditional recommendations for some specific cases like septum resection, removal of submucosal fibroids/polyps, and fibroids distorting the uterine cavity, where evidence is insufficient to make a strong recommendation.

Based on the guideline details provided, here is how you should be followed during your current pregnancy given your diagnosis of recurrent pregnancy loss (RPL) and positive thyroid antibody status:

The guideline strongly recommends thyroid screening with TSH and thyroid peroxidase (TPO) antibodies in women with RPL (Recommendation #24).

Since your TSH level is normal but you have a positive thyroid antibody, the guideline recommends following up with a thyroxine (T4) test (Recommendation #25).

The presence of thyroid autoimmunity (positive TPO antibodies) even with normal TSH puts you at risk for developing hypothyroidism during pregnancy.

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Close monitoring of your thyroid function with TSH and free T4 levels is advisable during this pregnancy, as thyroid dysfunction can impact pregnancy outcomes in RPL.

Depending on your T4 level, you may need thyroid hormone replacement with levothyroxine to maintain euthyroid status during the pregnancy.

Early treatment of subclinical hypothyroidism in TPO antibody positive women has been shown to decrease pregnancy loss rates.

So in summary, given your RPL history and positive thyroid antibody status, frequent monitoring of thyroid function with

Clinical Case	I have been diagnosed with recurrent pregnancy loss(RPL). And I am pregnant again now. My thyroid function tests, and the TSH level was within the normal reference range. But my thyroid antibody is positive. Should I be treated with levothyroxine during pregnancy?	<p>TSH, free T4 and potential thyroid hormone therapy is recommended to optimize your pregnancy outcome according to this guideline.</p> <p>Here is the relevant recommendation from the guideline:</p> <p>If women with thyroid autoimmunity and RPL are pregnant again, thyroid stimulating hormone (TSH) level should be checked in early gestation (7-9 weeks gestational age), and hypothyroidism should be treated with levothyroxine. Since your TSH level was within the normal range, you do not have hypothyroidism currently.</p> <p>The guideline also states:</p> <p>Euthyroid women with thyroid antibodies and RPL should not be treated with levothyroxine. So based on these recommendations, if your TSH remains normal in early pregnancy, you should not be treated with levothyroxine solely due to the presence of thyroid antibodies and a history of RPL. The guideline advises monitoring your TSH in early pregnancy (7-9 weeks) and treating with levothyroxine only if hypothyroidism develops. Based on the guideline, here is the advice regarding multivitamin supplements for you:</p> <p>The guideline states in recommendation #77: "If women with RPL ask about using multivitamin supplements, they should be advised on multivitamin supplements that are safe in pregnancy."</p>	55553213.95
Clinical Case	I am 12 weeks pregnant and want to use multivitamin supplements. I have been diagnosed with recurrent pregnancy loss. Is it safe for me? What multivitamin supplements should I take?	<p>It is generally considered safe for pregnant women, including those with recurrent pregnancy loss, to take a regular prenatal multivitamin supplement formulated for pregnancy.</p> <p>The guideline does not recommend any specific multivitamin brand, but advises that you should take a multivitamin that is safe and formulated for pregnancy.</p> <p>Most prenatal multivitamins contain folic acid, iron,</p>	55552117.24

calcium, vitamin D, and other vitamins and minerals needed during pregnancy. Avoid multivitamins with high doses of vitamin A or vitamin E, as those can potentially be harmful.

It's best to discuss the specific multivitamin you plan to take with your doctor to ensure it meets your nutritional needs during this pregnancy and is appropriate given your medical history of recurrent pregnancy loss.

In summary, a standard prenatal multivitamin supplement is considered safe for you to take at 12 weeks pregnant with a history of recurrent pregnancy loss, but you should review the specific product with your doctor first.

**Table 6.** Scores for Gemini Pro after training

Question Type		Question		Answers		Accuracy (investigator A)	Accuracy (investigator B)	Comprehensiveness (investigator A)	Comprehensiveness (investigator B)	Flesch Reading Ease	Flesch-Kincaid Grade Level
Content											
Prevention	Single Choice	Women should be sensitively informed that the risk of pregnancy loss is lowest in women aged: A. 20 to 25 years B. 20 to 35 years C. 30 to 40 years D. Over 40 years		B. 20 to 35 years		5	5				

Single Choice	Women should be informed that the risk of pregnancy loss rapidly increases after the age of: A. 35 years B. 40 years C. 45 years D. 50 years	B. 40 years	5	5
Single Choice	Regarding the association between stress and recurrent pregnancy loss (RPL), which statement is correct? A. Stress is a direct cause of RPL B. Stress is associated with RPL, but there is no evidence that it is a direct cause C. Stress has no association with RPL D. Stress increases the chances of pregnancy	B. Stress is associated with RPL, but there is no evidence that it is a direct cause	5	5
Single Choice	For couples with recurrent pregnancy loss(RPL), what is maternal obesity or being significantly underweight associated with? A. Obstetric complications B. Chances of a live birth C. General health issues D. All of the above	D. All of the above.	5	5
Single Choice	For couples with recurrent pregnancy loss(RPL), which recommendation is suggested? A. Maintain low body weight B. Maintain a healthy normal range BMI C. Gain weight D. Make no changes	B. Maintain a healthy normal range BMI	5	5
Single Choice	What is the relationship between excessive alcohol consumption and recurrent pregnancy loss(RPL)? A. A proven risk factor B. A possible risk factor C. No relationship D. Beneficial	B. A possible risk factor	5	5
Single Choice	For couples with recurrent pregnancy loss(RPL), what is the correct advice regarding alcohol consumption? A. Increase alcohol intake B. Limit alcohol consumption C. Consume specific types of alcohol D. No advice	B. Limit alcohol consumption	5	5
Multiple Choice	Which statements are correct regarding age and the risk of pregnancy loss? A. The risk of pregnancy loss is lowest in women aged 20 to 35 years B. The risk of pregnancy loss rapidly increases after the age of 40 C. Stress is a direct cause of recurrent pregnancy loss(RPL) D. There is no evidence that stress is a direct cause of pregnancy loss	A, B, D	5	5
Multiple Choice	Regarding alcohol consumption and recurrent pregnancy loss(RPL), which statements are correct? A. Excessive alcohol consumption is a possible risk factor for pregnancy loss B. Excessive alcohol consumption is a proven risk factor for fetal problems C. Couples with RPL do not need to limit their alcohol consumption D.	A、 B、 D	5	5

Question	Commo	Response	Correct	Incorrect	Wrong	Right	Score	Percentage
Couples with RPL should limit their alcohol consumption	Commo							
What is the defination of recurrent pregnancy loss?	Question	A diagnosis of Recurrent Pregnancy Loss (RPL) could be considered after the loss of two or more pregnancies.	5	5	3	3	62	9.13
		Behavioral and life factors of recurrent miscarriage: smoking Obese or significantly underweight overdrink						
		Other factors that may be relevant: Stress: Although there is no evidence that stress is a direct cause of miscarriage, it may be related to miscarriage. Age: The risk of miscarriage increases with age, especially after age 40.						
What are the behavioral and lifestyle factors in recurrent pregnancy loss?	Question	Other medical conditions: Certain medical conditions, such as thyroid problems, endometriosis, and polycystic ovary syndrome, may be associated with an increased risk of miscarriage.	5	5	3	3	40	9.46
		Suggestion: Give up smoking Maintain a healthy weight (BMI within normal range) Limit alcohol consumption Manage stress Consult a doctor to rule out any underlying medical conditions The guidelines do not include information on preventing recurrent miscarriage through health behavior changes.						
		However, the guidelines do mention some factors that may be associated with an increased risk of recurrent miscarriage, such as:						
How to prevent recurrent pregnancy loss through health behavior modifications?	Question	smoking Obese or significantly underweight overdrink The guidelines recommend the following health behaviors to improve overall health and potentially reduce the risk of	5	5	3	3	35	11.05

		recurrent miscarriage:							
		<p>Give up smoking</p> <p>Strive for a healthy Normal Body Mass Index (BMI)</p> <p>Limit alcohol consumption</p> <p>In addition, the guidelines emphasize the importance of considering psychosocial needs when providing and organizing care for couples with recurrent miscarriages. This may include providing emotional support, counselling and education to help them cope with the stress and grief of a recurrent miscarriage.</p>							
Common Question	If advanced maternal age increase the risk of recurrent pregnancy loss?	Yes, the risk of pregnancy loss rapidly increases after the age of 40.	3	3	2	2	57	8.54	
Common Question	Is recurrent pregnancy loss related to maternal weight?	<p>Yes, couples with recurrent pregnancy loss (RPL) should be informed that maternal obesity or being significantly underweight is associated with obstetric complications and could have a negative impact on their chances of a live birth and on their general health.</p> <p>There is no information in the guidelines provided on the safe upper limit of alcohol consumption during pregnancy.</p>	5	4	3	2	12	21.55	
Clinical Case	I am 42 years old and 10 weeks pregnant. I have excessive alcohol consumption and twice pregnancy loss before. Is there any association? Should I limit alcohol consumption during pregnancy? What is the safe upper limit for daily alcohol consumption during pregnancy?	<p>According to the guidelines, excessive alcohol intake can be a risk factor for miscarriage. However, the guidelines also state that there is no evidence that alcohol consumption is a direct cause of miscarriage.</p> <p>Because alcohol consumption is associated with an increased risk of fetal problems, such as fetal alcohol syndrome, couples should be advised to limit alcohol consumption during pregnancy, the guidelines recommend. Miscarriage risk related to your age and drinking habits:</p> <p>The guidelines state that the risk of miscarriage increases with age. You're 42 years old, which means you have a higher risk of miscarriage than a woman between the ages of 20 and 35.</p>	5	5	3	4	49	10.43	



The guidelines also state that excessive alcohol consumption can be a risk factor for miscarriage. However, the guidelines do not specify how much alcohol is too much.

#### Recommendations for drinking alcohol during pregnancy

The American College of Obstetricians and Gynecologists (ACOG) recommends that pregnant women avoid alcohol altogether. This is because even small amounts of alcohol can be harmful to the fetus.

#### conclusion

While the guidelines do not provide a safe upper limit for alcohol consumption during pregnancy, it does recommend that pregnant women limit their drinking. This is because drinking too much alcohol can be a risk factor for miscarriage, and alcohol intake is known to be linked to fetal problems.

If you are concerned that your drinking habits are affecting your pregnancy, it is best to discuss this with your doctor. They can help you assess your risk and offer advice on how to get pregnant safely. Yes, obesity is a risk factor for recurrent pregnancy loss (RPL).

You should strive for a healthy normal range body mass index (BMI) before and during pregnancy. Couples with recurrent pregnancy loss (RPL) should be informed that maternal obesity or being significantly underweight is associated with obstetric complications and could have a negative impact on their chances of a live birth and on their general health.

Maternal obesity is a strong risk factor in RPL, and weight loss in overweight women has a positive impact on fertility outcomes and reduced weight is associated with reduced

Clinical  
Case

I am overweight and have experienced three times pregnancy loss. Is obesity a risk for my recurrent miscarriages? Should I have a weight loss ?

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complications during pregnancy and birth. Striving for a normal BMI is recommended, even in the absence of studies on the impact of weight loss on a subsequent pregnancy loss.

This means that if you are overweight and have experienced recurrent pregnancy loss, it is important to lose weight before trying to conceive again. Losing weight can improve your chances of having a successful pregnancy and reduce your risk of pregnancy complications.

Striving for a healthy normal range body mass index (BMI) is recommended.

A healthy BMI is between 18.5 and 24.9. You can calculate your BMI by dividing your weight in kilograms by the square of your height in meters.

If you are overweight or obese, talk to your doctor about how to lose weight safely and effectively. There are many different ways to lose weight, so find a plan that works for you and stick to it.

Losing weight can be challenging, but it is worth it for the benefits it can have on your health and fertility.

Diagnosis	Single Choice	What is the recommendation for thyroid screening in women with recurrent pregnancy loss(RPL)? A) Only if there are symptoms of thyroid disorder B) Recommended in all cases C) After two pregnancy losses D) Not recommended
	Single Choice	For thyroid screening in women with recurrent pregnancy loss(RPL), which of the following are recommended? A. Thyroid-stimulating hormone (TSH). B. Thyroid peroxidase (TPO) antibodies. C. Thyroid-stimulating hormone (TSH) and Thyroxine (T4). D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.

B) Recommended in all cases	5	5
D. Thyroid-stimulating hormone (TSH) and Thyroid peroxidase (TPO) antibodies.	5	5

Single Choice	For women with recurrent pregnancy loss(RPL), when is screening recommended for antiphospholipid antibodies? A. After the first pregnancy loss. B. After two pregnancy losses. C. After three pregnancy losses. D. Only in the presence of additional risk factors for thrombophilia.	B. After two pregnancy losses.	5	5
Single Choice	For women with recurrent pregnancy loss(RPL), which of the following assessments is not recommended to improve the prognosis of the next pregnancy? A. Assessment of Polycystic Ovary Syndrome (PCOS). B. Fasting insulin and glucose testing. C. Ovarian reserve testing. D. All of the above.	D. All of the above.	5	5
Single Choice	For couple with recurrent pregnancy loss(RPL), what is recommended for genetic analysis of pregnancy tissue following pregnancy loss? A)subtelomere multiplex ligation-dependent probe amplification (MLPA) B) Array-based Comparative Genomic Hybridization (array-CGH) C) quantitative fluorescence polymerase chain reaction (QF-PCR) D) karyotyping	B) Array-based Comparative Genomic Hybridization (array-CGH)	5	5
Single Choice	What is the preferred technique for evaluating the uterus in women with recurrent pregnancy loss(RPL)? A)Hysterosalpingography (HSG) B) Sonohysterography (SHG) C) Transvaginal 3D ultrasound (US) D) MRI	C) Transvaginal 3D ultrasound (US)	5	5
Single Choice	Which of the following is not recommended for routine testing in women with recurrent pregnancy loss(RPL)? A) Human Leukocyte Antigen (HLA) determination B) Thyroid screening C) Transvaginal 3D ultrasound (US) D) Sonohysterography (SHG)	A) Human Leukocyte Antigen (HLA) determination	5	5
Multiple Choice	Regarding diagnostic investigations in recurrent pregnancy loss(RPL), which statement is correct? A. They can be tailored based on medical and family history. B. Genetic analysis of pregnancy tissue is mandatory for all patients. C. Genetic analysis of	C. Genetic analysis of pregnancy tissue is not routinely recommended.	3	3

Short Essay Question	Multiple Choice	pregnancy tissue is not routinely recommended. D. Parental karyotyping should be performed for all patients. Which of the following investigations can be used for recurrent pregnancy loss(RPL) diagnosis? A. Medical and family history analysis B. Genetic analysis C. Antiphospholipid antibody screening D. Thyroid function tests	A, B, C, D	5	5						
	Multiple Choice	The prognosis for women with recurrent pregnancy loss(RPL) is recommended to be based on which factors? A. maternal age B.maternal age at first pregnancy C. Number of previous pregnancy losses D. Complete pregnancy history	D. Complete pregnancy history	2	2						
	Multiple Choice	For women with recurrent pregnancy loss(RPL), which tests are recommended? A. Thyroid function screening B. Ovarian reserve testing C. Luteal phase insufficiency testing D. Uterine anatomy assessment	A, D	5	5						
	Comm on Question	For couples with recurrent pregnancy loss, which imageological examinations should be taken?	<p>Imaging Tests for Recurrent Pregnancy Loss (RPL)</p> <p>Recommended:</p> <p>Transvaginal 3D ultrasound: High sensitivity and specificity for diagnosing uterine malformations, including septate and bicornuate uteri.</p> <p>Sonohysterography (SHG): More accurate than hysterosalpingography (HSG) in diagnosing uterine malformations. Can also evaluate tubal patency.</p> <p>2D ultrasound: To rule out adenomyosis.</p> <p>Conditional Recommendations:</p> <p>Hysterosalpingography (HSG): Can be used to evaluate uterine morphology and tubal patency, but less accurate than SHG.</p> <p>MRI: Can be used to assess uterine malformations when 3D ultrasound is not available or inconclusive. However, it is more expensive and offers no diagnostic advantage over 3D ultrasound.</p> <p>Not Recommended:</p> <p>Routine MRI: Not recommended as a first-line option for assessing uterine malformations.</p>	5	5	5	5	5	14.94		

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In the diagnosis of recurrent pregnancy loss, which is the preferred imageological examination for women?

Additional Considerations:

If a Müllerian uterine malformation is diagnosed, further investigation of the kidneys and urinary tract should be considered.

Imaging tests should be performed by experienced professionals to ensure accurate interpretation.

Transvaginal 3D ultrasound (US) is the preferred imaging examination for women with recurrent pregnancy loss (RPL) because it has a high sensitivity and specificity for detecting uterine malformations. It can also distinguish between a septate uterus and a bicornuuate uterus (formerly known as an AFS bicornuate uterus) with a normal cervix.

Other imaging modalities that can be used to evaluate the uterus in women with RPL include:

Sonohysterography (SHG) is more accurate than hysterosalpingography (HSG) in diagnosing uterine malformations. It can be used to evaluate uterine morphology when 3D ultrasound is not available, or when tubal patency has to be investigated.

Magnetic resonance imaging (MRI) is not recommended as the first-line option for the assessment of uterine malformations in women with RPL, but it can be used when 3D US is not available.

The choice of imaging modality will depend on the specific circumstances of each case. For example, if a woman has a history of multiple miscarriages, or if she has other risk factors for uterine malformations, then 3D ultrasound would be the preferred imaging modality. If a woman has a history of pelvic inflammatory disease or other conditions that could affect tubal patency, then SHG would be the preferred imaging modality.

It is important to note that uterine malformations are not the only cause of RPL. Other causes include chromosomal abnormalities, genetic disorders, and immunological factors. Therefore, a thorough evaluation of all potential

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		causes of RPL is important in order to develop an appropriate treatment plan.									
		Medical and family history could be used to tailor diagnostic investigations in recurrent pregnancy loss (RPL). (Good practice point)									
		The guideline development group (GDG) concludes that a thorough reproductive history should be taken in couples presenting with RPL and stresses that the complete pregnancy history and female age provide the best available prognostic information. (Strong recommendation)									
		The GDG recommends to base prognosis on woman's age and her complete pregnancy history, including number of previous pregnancy losses, live births and their sequence. (Conditional recommendation)									
Comm on Questi on	Is there any association between family history and recurrent pregnancy loss?	Genetic analysis of pregnancy tissue following pregnancy loss is not routinely recommended but it could be performed for explanatory purposes. As the impact of further clinical decision-making and the exact influence on prognosis for an individual patient is unclear, the GDG decided to formulate a conditional recommendation on genetic testing of the pregnancy tissue. For genetic analysis of the pregnancy tissue, Array-based Comparative Genomic Hybridization (array-CGH) is recommended based on a reduced maternal contamination effect. (Strong recommendation) Parental karyotyping could be carried out after individual assessment of risk for diagnostic or explanatory purposes. (Conditional recommendation)	2	3	3		2	15	14.98		
Comm on	What kinds of genetic analysis of pregnancy tissue are routinely recommended in the diagnosis of recurrent pregnancy loss(RPL)?	There is no need for routine testing. Couples should primarily be informed that, even if a parental abnormality is found. Genetic analysis of pregnancy tissue following pregnancy loss is not routinely recommended.	5	5	4		5	14	15.11		

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Medical and family history could be used to tailor diagnostic investigations in recurrent pregnancy loss (RPL). (Good practice point)

The guideline development group (GDG) concludes that a thorough reproductive history should be taken in couples presenting with RPL and stresses that the complete pregnancy history and female age provide the best available prognostic information. (Strong recommendation)

The GDG recommends to base prognosis on woman's age and her complete pregnancy history, including number of previous pregnancy losses, live births and their sequence. (Conditional recommendation)

Genetic analysis of pregnancy tissue following pregnancy loss is not routinely recommended but it could be performed for explanatory purposes.

As the impact of further clinical decision-making and the exact influence on prognosis for an individual patient is unclear, the GDG decided to formulate a conditional recommendation on genetic testing of the pregnancy tissue.

For genetic analysis of the pregnancy tissue, Array-based Comparative Genomic Hybridization (array-CGH) is recommended based on a reduced maternal contamination effect. (Strong recommendation)

Parental karyotyping could be carried out after individual assessment of risk for diagnostic or explanatory purposes. (Conditional recommendation)

There is no need for routine testing. Couples should primarily be informed that, even if a parental abnormality is found.

Yes, serum immunological tests are recommended in the diagnosis of recurrent pregnancy loss. The following immunological tests should be taken:

Antiphospholipid antibodies (Lupus Anticoagulant [LA], and Anticardiolipin antibodies [ACA IgG and IgM])

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Are serum immunological tests recommended in the diagnosis of recurrent pregnancy loss? What kinds of immunological tests should be taken?

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Comm on Questi on	Should women with recurrent pregnancy loss take a thrombophilia screening?	<p>β2 glycoprotein I antibodies (aβ2GPI)</p> <p>Conditional recommendation: Screening for thrombotic tendency in women with recurrent miscarriage is not recommended except in the context of the study, or if the woman has other risk factors for thrombotic tendency.</p> <p>Abnormal Thyroid stimulating hormone (TSH) levels should be followed up by Thyroxine (T4) testing in women with recurrent pregnancy loss (RPL).</p> <p>Assessment of Polycystic ovary syndrome (PCOS), fasting insulin and fasting glucose is not recommended in women with RPL to improve next pregnancy prognosis.</p> <p>Prolactin testing is not recommended in women with RPL in the absence of clinical symptoms of hyperprolactinemia (oligo/amenorrhea).</p>	5	5	3	3	10	19.75
		Should women with recurrent pregnancy loss screen for metabolic or endocrinological tests? Which tests are recommended?	5	5	5	5	30	12.76
		<p>Ovarian reserve testing is not routinely recommended in women with RPL.</p> <p>Luteal phase insufficiency testing is not recommended in women with RPL.</p> <p>Androgen testing is not recommended in women with RPL.</p> <p>Luteinizing Hormone (LH) testing is not routinely recommended in women with RPL</p> <p>Measurement of homocysteine plasma levels is not routinely recommended in women with RPL.</p> <p>Assessing lifestyle of the male partner (paternal age, smoking, alcohol consumption, exercise pattern, and body weight) is recommended in couples with recurrent pregnancy loss (RPL). Therefore, it is possible that your husband's alcohol consumption and obesity could be contributing factors to your pregnancy losses. It is recommended that your husband should limit alcohol consumption and lose weight.</p>	5	5	2	3	21	17.47
Treat	Single	What is the recommendation for women with hereditary	5	5				



ment	Choice	thrombophilia and recurrent pregnancy loss(RPL)? A) Use antithrombotic prophylaxis B) Avoid antithrombotic prophylaxis unless for VTE prevention or research C) Administer aspirin D) Undergo genetic testing	VTE prevention or research		
	Single Choice	What is the recommendation for women with recurrent pregnancy loss(RPL) and endometrial polyps? A) Regular monitoring with MRI B)Surgery increases the chance of a live birth in women with RPL C) Surgery increases the chance of miscarriage in women with RPL D) Surgical removal of endometrial polyps is not recommended	D) Surgical removal of endometrial polyps is not recommended	5	5
	Single Choice	What is the recommendation regarding vaginal progesterone in women with recurrent pregnancy loss(RPL)? A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy B) Not recommended in any case of RPL C) Only recommended for women with less than 3 pregnancy losses D) Recommended for all women with RPL	A) Improves live birth rate in women with 3 or more pregnancy losses and vaginal blood loss in a subsequent pregnancy	5	5
	Single Choice	Which of the following is true about multivitamin supplements consumption in women with recurrent pregnancy loss(RPL)? A) Women with RPL should be advised on multivitamin supplements that are safe in pregnancy B) Multivitamin supplements are not recommended for women with RPL C) Multivitamin supplements are risk factors for RPL D) Vitamins A and E can be taken for women with RPL	A) Women with RPL should be advised on multivitamin supplements that are safe in pregnancy	5	5
	Multiple Choice	What factors are recommended to base prognosis on for women with recurrent pregnancy loss(RPL)? A) Woman's age B) Complete pregnancy history C) Number of previous pregnancy losses D) Live births and their sequence	B, C, D	4	4

Multiple Choice	For women with recurrent pregnancy loss(RPL), what can prognostic tools (Kolte & Westergaard) be used for?	A) Providing an estimate of subsequent chance of live birth	3	3						
	A) Providing an estimate of subsequent chance of live birth									
	B) Providing an estimate of adverse pregnancy outcome									
	C) Providing information on possible treatments									
Multiple Choice	Which treatment methods are not recommended for women with recurrent pregnancy loss (RPL)?	A.Progesterone	5	5						
	A.Progesterone									
	B. Lymphocyte immunization therapy	B、 D								
	C. Repeated and high doses of Intravenous immunoglobulin (Ivlg)									
Short Question	Should women with recurrent pregnancy loss(RPL) be treated with heparin or aspirin during pregnancy?	No, heparin or low dose aspirin are not recommended, as there is evidence that they do not improve live birth rate in women with unexplained recurrent pregnancy loss (RPL).	3	3	2	3	3	13.61		
		There is insufficient evidence to recommend metroplasty in women with bicorporeal uterus and double cervix (former AFS didelphic uterus) and recurrent pregnancy loss (RPL).								
		There is insufficient evidence supporting hysteroscopic removal of submucosal fibroids or endometrial polyps in women with RPL.								
Essay	Should women with uterine abnormalities and recurrent pregnancy loss be treated with surgery?	Surgical removal of intramural fibroids is not recommended in women with RPL. There is insufficient evidence to recommend removing fibroids that distort the uterine cavity.	3	4	3	3	5	17.64		
		There is insufficient evidence of benefit for surgical removal of intrauterine adhesions for pregnancy outcome. After hysteroscopic removal of intrauterine adhesions in women with RPL, precautions have to be taken to prevent recurrence of adhesions.								
Clinical	I am 12 weeks pregnant and have been diagnosed with recurrent pregnancy loss(RPL). In my thyroid	If women with thyroid autoimmunity and recurrent pregnancy loss (RPL) are pregnant again, thyroid	5	5	4	4	14	19.97		

s	Case	function tests, the TSH level was within the normal reference range. But my thyroid antibody is positive. How should I be followed during pregnancy?	stimulating hormone (TSH) level should be checked in early gestation (7-9 weeks AD), and hypothyroidism should be treated with levothyroxine.								
	Clinical Case	I have been diagnosed with recurrent pregnancy loss(RPL). And I am pregnant again now. My thyroid function tests, and the TSH level was within the normal reference range. But my thyroid antibody is positive. Should I be treated with levothyroxine during pregnancy?	If women with thyroid autoimmunity and recurrent pregnancy loss (RPL) are pregnant again, thyroid stimulating hormone (TSH) level should be checked in early gestation (7-9 weeks AD), and hypothyroidism should be treated with levothyroxine.	5	5	3	4	14	19.97		
			Multivitamin Supplements for Women with Recurrent Pregnancy Loss								
			There is no conclusive evidence to recommend multivitamin supplements as a treatment for recurrent pregnancy loss (RPL). However, some women with RPL may choose to take multivitamin supplements in an effort to improve their overall health and well-being.								
			If you are considering taking multivitamin supplements, it is important to talk to your healthcare provider first. They can help you determine if multivitamin supplements are right for you and can recommend a supplement that is safe for use during pregnancy.								
	Clinical Case	I am 12 weeks pregnant and want to use multivitamin supplements. I have been diagnosed with recurrent pregnancy loss. Is it safe for me? What multivitamin supplements should I take?	Some multivitamin supplements that are safe for use during pregnancy include:	3	3	3	3	28	15.36		
			Prenatal vitamins: Prenatal vitamins are specifically designed to meet the nutritional needs of pregnant women. They contain a variety of vitamins and minerals, including folic acid, iron, and calcium.								
			Multivitamins for women: Multivitamins for women are not specifically designed for pregnant women, but they can still be a good option for women who are trying to conceive or who have a history of RPL. They typically contain a variety of vitamins and minerals, including folic acid, iron, and calcium.								
			It is important to note that some multivitamin supplements may contain ingredients that are not safe for use during pregnancy. For example, some multivitamins contain								

vitamin A, which can be harmful to the developing fetus. It is important to read the label carefully before taking any multivitamin supplement during pregnancy.

If you are pregnant and have been diagnosed with RPL, it is important to follow your healthcare provider's instructions carefully. They can help you manage your condition and improve your chances of having a healthy pregnancy.

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