Comprehensive geriatric assessment

Introduction

Society is undergoing massive demographic change, the most striking feature of which is the large increase in the proportion of elderly, frail patients. These patients have similar expectations to their younger counterparts, and rationalization of treatment on the basis of age has been consigned to the past. Future health service provision and medical training will need to reflect this, and consequently junior doctors (almost irrespective of chosen speciality) will require in-depth understanding of how to evaluate and manage these complex patients.

When providing medical care for the elderly, one must realize that commonly cited reasons for admission such as decreased mobility, falls, or 'off legs' are not themselves diagnoses, but represent syndromes that may be the presenting feature of almost any underlying pathological process.

Appropriate management is likely only if doctors consider all possible contributing problems. This is in essence comprehensive geriatric assessment, and this article will outline some of the issues in more detail. Although it will cover all aspects, the main focus will be on the medical aspects of the assessment.

What is comprehensive geriatric assessment?

Comprehensive geriatric assessment is an approach to the detailed and systematic evaluation of elderly patients. It includes consideration of acute and chronic medical conditions, functional status, psychosocial issues and environmental concerns. Problems in one or more of these areas may lead to contact with medical services, with failure to recognize this potentially leading to inappropriate management and treatment failure, which in turn prompts delayed discharges and recurrent admissions.

Comprehensive geriatric assessment is an ongoing process requiring the input of a multidisciplinary team. Knowledge of its components is relevant for junior doctors who often make the initial evaluation of patients, although clearly not all of the in-depth assessments will be possible during busy on-calls. *Table 1* (produced by the British Geriatric Society, 2005) outlines the components of comprehensive geriatric assessment. This article will refer to all areas, but will concentrate on the medical assessment, and the potential contribution of junior doctors in the other areas.

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Medical assessment

Medical assessment of elderly patients is often complex and challenging as disease presentation is often abnormal. A seemingly limitless number of pathological processes can present as one of the 'geriatric giants' (immobility, instability, intellectual decline and incontinence) and detailed initial medical assessment can provide answers and contribute to a comprehensive management plan. The following areas are of specific interest.

History taking

Approximately 80–90% of diagnoses are made on the basis of the clinical history and a detailed and comprehensive history is essential in all patients. There may be significant challenges when taking a history from unwell elderly patients as a result of delirium, dementia or communication difficulties (e.g. in the deaf or dysphasic patient). The questions asked are the same, but particular attention should be paid to seemingly irrelevant pieces of information and non-verbal cues, as these can often provide clues if interpreted correctly.

If the reliability of the history is questionable then all possible avenues should be pursued to obtain collateral history. Family, friends, neighbours, care workers and other allied medical professionals (e.g. GP, district nurse, paramedics) can often provide information which may affect subsequent management plans.

Systems review is particularly valuable in the elderly, allowing identification of current problems, or providing information to allow prevention of future difficulties. Questioning should be directed towards nutrition and appetite, mobility and falls, and any concerns regarding bladder and bowel function. An evaluation of mood and sleep pattern should be made, as should questions to determine deterioration of the 'special senses', e.g. vision.

Table 1. Components of comprehensive geriatric assessment

Components	Elements
Medical assessment	Problem list
	Co-morbid conditions and disease severity
	Medication review
	Nutritional status
Functional assessment	Basic activities of daily living
	Instrumental activities of daily living
	Activity and exercise status
	Gait and balance
Psychological assessment	Mental status (cognitive) testing
	Mood and depression testing
Social assessment	Informal support needs and assets
	Care resource eligibility and financial assessment
Environmental assessment	Home safety
	Transportation and tele-health

From British Geriatric Society (2005)

The detailed medical history in the geriatric patient includes an evaluation of cigarette and alcohol consumption. The latter is particularly important as it can contribute to immobility, instability, intellectual decline or incontinence, as well as being highly significant in those with cardiovascular disease, hypertension and seizures. It may also adversely interact with commonly prescribed medications (e.g. warfarin).

Medication review

Elderly patients consume a disproportionately high number of medications and are at increased risk of adverse drug reactions. A large number (up to 10%) of hospital admissions may have been precipitated in part by adverse drug reactions, and it is therefore essential that time is taken obtaining a detailed drug history.

As with other aspects of geriatrics, adverse drug reactions often manifest in non-specific ways (e.g. confusion or falls), and a high index of suspicion is needed. Specific information regarding acute and repeat prescriptions, over-the-counter preparations, and any recent dose changes is essential. It is important not to overlook consumption of herbal remedies and also to remember that topical medications (e.g. topical non-steroidal anti-inflammatory drugs or glaucoma eye drops) often have significant systemic absorption, and may consequently precipitate problems similar to their enteral relatives (e.g. postural hypotension or bronchospasm in the case of topical beta-blockers).

Clinical examination

When clinical history is inconclusive, physical examination often provides vital information. General examination should consist of all usual aspects, but should be extended to cover areas such as cognition and mood, skin condition and pressure areas, nutrition and hydration, and problems with vision and hearing. Routine observations (including oxygen saturations) should be measured in all unwell patients, and postural blood pressure readings performed in all patients presenting with falls, immobility, loss of consciousness or 'off legs'.

Thorough systemic examination may yield evidence of occult disease, and takes a relatively short length of time. Clinical signs may vary with age and should be interpreted cautiously. Common examples of this include the absence of fever in elderly patients with significant sepsis, and the presence of scattered basal crepitations in those without pulmonary oedema. In cases where there is doubt regarding the significance of present (or absent) clinical signs, clarification should be sought from more experienced members of the team.

Gait examination is often overlooked but may provide evidence of problems such as parkinsonism and postural instability, both of which are frequently missed. In those presenting with agitation, confusion or aggression doctors should look for evidence of urinary retention or faecal impaction, as these often present non-specifically, and can be treated with rapid clinical effect.

Clinical investigations

The decision regarding which tests to perform should always be determined by the presenting complaint. Elderly patients may need careful consideration to ensure that relevant investigations are requested and appropriate action taken in response to the results.

The non-specific nature of disease in the elderly often warrants a complete set of 'routine' blood tests (full blood count, erythrocyte sedimentation rate, urea and electrolytes, liver function tests, bone profile, thyroid function tests, glucose). These may provide evidence of infective or metabolic causes of deterioration, or point towards undiagnosed malignancy. It is useful to know that for some laboratory-based tests reference ranges vary with age, specific examples of this including serum sodium concentration (often lower) and erythrocyte sedimentation rate (often higher). Again, discussion with senior colleagues may be required.

Myocardial infarction, pulmonary embolism and cardiac arrhythmia are all common in the elderly but may present atypically (e.g. confusion or drowsiness). There should therefore be a low threshold for requesting electrocardiogram and chest X-ray especially in the acutely unwell patient. Other imaging should be requested following discussion with senior colleagues on an individual patient basis.

'Non-medical' assessment

As outlined above, there are numerous relevant aspects to comprehensive geriatric assessment that are not specifically medical, but that may have significant bearing on the patient. Traditionally these assessments have been made by allied medical staff rather than doctors, but it is essential that medical staff understand the nature and purpose of other areas of the assessment process. These are outlined below.

Functional assessment

Detailed assessment of a patient's functional status is essential in geriatric care. For many patients the primary concern is often not the medical diagnosis, but how much independence they will retain. Physical function is also important to health-care planning and provision, as it determines the need for rehabilitation, contributes to discharge planning, and may result in further admissions. Adequate medical history will cover some of the relevant areas and give clinicians 'a feel' for what their patients can do. Collateral history may be helpful in patients presenting with acute illness, as pre-morbid functioning often plays a major role in decisions regarding escalation of care and resuscitation.

Information for the functional assessment can be gathered by any member of the multidisciplinary team and should provide a framework for any planned rehabilitation, allow the setting of realistic goals for therapy and future discharge planning. Doctors have a key role to play, as function can often be improved by attention to ongoing medical conditions which may interfere with assessment or rehabilitation (for example, chronic pain secondary to osteoarthritis, or insomnia caused by nocturia resulting from urological disease).

Psychological assessment

Evidence suggests that the elderly experience high levels of depression, anxiety, psychosis and confusion. Failure to identify these problems may prompt medical care to fail, and should always be considered in patients not progressing with rehabilitation. Such problems are often overlooked, or accepted by staff as being an inevitable consequence of ageing, but this is seldom the case.

It is important to remember that many common presentations (e.g. weight loss, breathlessness, chronic pain) can be manifestations of, or exacerbated by, psychological problems. A high index of suspicion is required to identify them, and a careful and sympathetic approach is required to treat them effectively. There are well-validated scores and scales that can be used for evaluating these problems, and effectiveness of treatments (e.g. the Geriatric Depression Scale). These can be done by any member of the multidisciplinary team and are listed (along with other useful scales) in *Table 2*. This table provides an introduction, but is by no means exhaustive.

Social assessment

Many medics consider admissions of elderly patients to be primarily social. Admission can be precipitated by 'acopia', but this is often caused by exacerbation (either acute or chronic) of underlying medical (or psychological) problems. Realization of this, along with a thorough assessment of a patient's social network, carers and support (both formal and informal), is essential for successful management.

Early referral to social workers should be initiated to avoid delay, and the multidisciplinary team should be organized and focussed on practical interventions. Doctors of all grades should be central to this process in providing prognostic information, and acting as a hub for the multidisciplinary team, ensuring that goals are set and reviewed, and that discharge planning is practical and focussed.

Environmental assessment

This area is probably the one to which doctors contribute least, as it is traditionally viewed as the role of occupational therapists, physiotherapists and social workers (recently health visitors for the elderly have also contributed). However, all junior doctors should understand what is involved in these assessments. With the current move towards community treatment, doctors will be required to participate directly in these aspects of assessment in future.

Conclusions

With increasing numbers of elderly patients, and the need for definitive management plans, all junior doctors must possess good clinical skills and an appreciation of the need for holistic care. Such skills transfer to other medical disciplines, but may require modification for elderly patients. A broad knowledge base and high index of suspicion, coupled with appropriate clinical examination and 'tests' is needed to formulate problem lists.

Comprehensive geriatric assessment will need to become commonplace, and although specifically designed for use in the elderly, will develop essential skills irrespective of clinical speciality for foundation trainees. **BJHM**

Conflict of interest: none.

British Geriatric Society (2005) *Comprehensive Assessment for the Older Frail patient in Hospital.* British Geriatric Society, London (www.bgs.org.uk/Publications/Publication%20Downloads/Compend_3-5%20Comp%20Assessment%20hospital.doc accessed 19 June 2007)

Further reading

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Forciea MA, Schwab EP, Razziano DB, Lavizzo-Mourey R (2004) *Geriatric Secrets.* 3rd edn. Hanley and Belfus, Philadelphia, USA

Joint Formulary Committee (2007) Prescribing in Elderly Care. In: *British National Formulary.* 53rd edn. BMJ Publishing and RPS Publishing, London: 18–20

Royal College of Physicians (2006) *The Prevention, Diagnosis and Management of Delirium in Older People.* Royal College of Physicians, London (http://www.rcplondon.ac.uk/pubs/brochure.aspx?e=142 accessed 19 June 2007)

Table 2. Useful scores and scales for comprehensive geriatric assessment

Name of score or scale	Relevant area of comprehensive geriatric assessment
Confusion assessment method	Delirium (acute confusion)
Folstein's or Mini Mental State Examination	Cognition
Clock completion test	Cognition
Geriatric depression scale	Depressive illness
Malnutrition Universal Screening Tool	Nutrition
Modified Rankin score	Functional assessment
Waterlow score	Pressure ulcer risk

Online resources

www.bgs.org.uk

Website of the British Geriatric Society with links to relevant material and guidelines

www.nice.org

Website of the National Institute for Health and Clinical Excellence with links to guidelines for the management of common geriatric problems including dementia, Parkinson's disease and falls

KEY POINTS

- Comprehensive geriatric assessment formalizes essential generic skills relevant to all medical practitioners, and is highly relevant to foundation year doctors.
- A detailed clinical history is fundamental to this process.
- Never forget to take a drug history.
- Always think of 'what' (i.e. what is the reason for presentation) and 'so what' (i.e. what is the effect on functional status).
- The doctor plays a key role in comprehensive geriatric assessment, but can only be successful when working closely with a multidisciplinary team.