

HIV-infected teenagers delay treatment until disease advanced

Nearly half of HIV-infected teenagers and young adults forego timely treatment, delaying care until their disease has advanced, which puts them at risk for dangerous infections and long-term complications, according to new research (Agwu et al, 2014).

The researchers say their findings are particularly troubling in light of mounting evidence that starting treatment as early as possible can go a long way toward keeping the virus in check and prevent the cardiovascular, renal and neurological damage characteristic of poorly controlled HIV infection over time.

The researchers analysed records of nearly 1500 teens

and young adults, aged 12 to 24 years, infected with HIV and seen between 2002 and 2010 in 13 clinics across the country. Between 30 and 45% of study participants sought treatment when their disease had reached an advanced stage, defined as having fewer than 350 CD4 cells/mm³ of blood.

Males and members of racial and ethnic minorities were more likely than others to seek care at more advanced disease stages, the study showed. Black youths were more than twice as likely as their white counterparts to show up in clinic at more advanced stages, while Hispanic youths were 1.7 times more likely to do so. Boys and young men were more likely

than girls to show up in clinic with lower CD4 cell counts.

Dr Allison Agwu, Assistant Professor of Pediatric and Medicine, Division of Infectious Diseases, Johns Hopkins University School of Medicine, Baltimore, MD



Males infected through heterosexual intercourse also tended to present to clinic for treatment at more advanced disease stages than homosexual males, a finding which suggests that this population may underestimate its own HIV risk. This perception of low risk, the researchers say, may have been fuelled inadvertently by public health campaigns that focus on men who have sex with men – the group at highest risk for HIV infection.

While the researchers did not study specifically why patients were showing up in clinic with advanced infections, they believe some young people were simply unaware of their HIV status, while others had been diagnosed earlier but, for a variety of reasons, did not seek care.

‘These are decidedly disappointing findings that underscore the need to develop better ways to diagnose teens sooner and, just as importantly, to get them into care and on therapy sooner,’ said lead investigator Dr Allison Agwu, an infectious disease specialist and HIV expert at the Johns Hopkins Children’s Center.

‘In our study, heterosexual males emerged as this fall-through-the-cracks group,’ she said. ‘We’ve put a lot of emphasis on men who have sex with men in our screening and outreach, but one side effect of this may be that straight males perceive themselves as low risk.’

Agwu AL, Neptune A, Voss C, Yehia B, Rutstein R; for the HIV Research Network (2014) CD4 counts of nonperinatally HIV-infected youth and young adults presenting for HIV care between 2002 and 2010. *JAMA Pediatr* February 3 (doi: 10.1001/jamapediatrics.2013.4531) (Epub ahead of print)

Doyle MBM, Vachharajani N, Wellen JR et al (2014) A novel organ donor facility: A decade of experience with liver donors. *Am J Transplantation* February 25 (DOI:10.1111/ajt.12607) (Epub ahead of print)

Freestanding organ recovery centres reduce costs and improve efficiency of deceased organ donation

An American study has found that free-standing organ recovery centres could markedly improve efficiency and reduce costs associated with deceased organ donation (Doyle et al, 2014). The findings have major implications for cost containment and national policies related to organ transplantation.

In America, transplant surgeons have historically travelled to donor hospitals, where they perform complex, time-sensitive procedures with unfamiliar hospital staff. This often involves air travel and significant delays. In 2001, Mid-America Transplant Services in St. Louis established the nation’s first organ recovery centre and began to move brain-dead donors to this free-standing facility. The facility is located only a couple of miles from both of the

transplant centres in the organ procurement organization’s service area.

Dr MB Majella Doyle, of the Washington University School of Medicine, and her colleagues analysed liver donors and recipients, donor costs, surgeon hours, and travel time associated with the 915 liver procurements that occurred in their centre from April 2001 through December 2011. Among the major findings were:

In the first year, 36% (9/25) of organ recoveries occurred at the facility, rising to 93% (56/60) in the last year of analysis. Travel time was reduced from 8 hours to 2.7 hours, with a reduction of surgeon fly outs by 93% (14/15) in 2011.

Organ recovery costs were reduced by 37% at the facility compared with those at an

acute care hospital, which indicates that transferring the donor to the facility early and performing all the investigations there saves money.

‘The magnitude of these changes has been dramatic with no negative effects for the organ transplant process,’ said Dr Doyle.

‘The concept of moving brain-dead organ donors to a free-standing organ recovery centre is one that we believe has great merit and should be considered on a regional basis across the United States and in other countries where solid organ transplantation occurs from deceased donors,’ she added.

Management of paediatric trauma in England and Wales

The first national report on the nature and outcome of trauma management for children in England and Wales has been produced by TARNlet, the paediatric (0–15 years) component of the Trauma Audit & Research Network (2014).

The Trauma Audit & Research Network (TARN) helps hospital staff to collect and evaluates data on all their significant trauma cases. Management and outcome reports support reviews of their trauma care.

The new TARNlet report gives an overview of when and where injured children presented in the health-care system, along with some measures of the process of care.

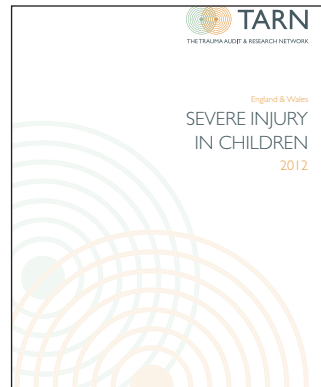
Over 4700 children under the age of 16 years suffered significant injuries in 2012. The report looks at 737 children with the most severe injuries. Sadly, 56 of those children died despite interventions.

The report found that boys were twice as likely as girls to suffer severe injury and the commonest cause of injury was a road traffic incident either as a pedestrian or passenger (283). Falls from a height (271) were also a major cause of severe injury. There were 72 children, under the age of 2 years with non-accidental causes of their significant injuries.

August and September were the busiest months while the busiest times were during weekends and early evenings.

The report shows that severe head injury occurred in a large proportion of the severely injured children, emphasizing the importance of neurointensive and neurological care within the trauma networks.

Maralyn Woodford, Executive Director of TARN from the Institute of Population Health, the University of Manchester and based at Salford Royal NHS



Foundation Trust, said: 'One piece of data that raised significant concern is that over one quarter of significantly injured children are delivered to hospital, not by specialist ambulance crews, but by private car.'

Data collection will continue and such reports are planned to be constructed annually. The TARNlet Committee will analyse and discuss their findings with the appropriate NHS bodies. Many of the data are available via www.tarn.ac.uk/

Trauma Audit & Research Network (2014) *Severe Injury in Children England and Wales 2012*. Trauma Audit & Research Network, Manchester (www.tarn.ac.uk/Content/ChildrensReport/ accessed 26 February 2014)

First-line oral treatment for relapsing remitting multiple sclerosis

Tecfidera (dimethyl fumarate) has been approved by the European Commission as a first-line oral treatment for people with relapsing remitting multiple sclerosis, the most common form of multiple sclerosis.

Heart valve approved for valve-in-valve procedures

The Sapien XT transcatheter heart valve has received the CE mark in Europe for valve-in-valve procedures. This allows minimally invasive treatment for patients whose surgical mitral or aortic valves require replacement, and who are at extreme risk for surgery.

Dabrafenib approved for treatment of patients with metastatic melanoma

Dabrafenib (Tafinlar) is available to treat patients with metastatic melanoma in England. Dabrafenib was approved by NHS England to be funded by the Cancer Drugs Fund, for the treatment of unresectable or metastatic melanoma in patients with a BRAF V600 mutation who are intolerant to vemurafenib, as long as seven qualifying criteria are met.

Secondary thyroid cancer more deadly than primary malignancy in adolescents and young adults

A new analysis has found that adolescents and young adults who develop thyroid cancer as a secondary cancer have a significantly greater risk of dying than those with primary thyroid cancer (Goldfarb and Freyer, 2014). The findings stress the importance of screening young cancer survivors to detect early signs of a potentially life-threatening thyroid malignancy.

Drs Goldfarb and Freyer, of the Keck School of Medicine of the University of Southern California and Children's Hospital Los Angeles, designed

a study to compare the tumour characteristics, treatment and survival of such primary *vs* secondary thyroid cancers in adolescent and young adult patients.

Their analysis included all adolescent and young adult thyroid cancer cases documented in the 1998–2010 American College of Surgeons National Cancer Database.

Of 41 062 cases, 1349 (3.3%) had experienced a prior malignancy. Compared with cases of primary thyroid cancer, cases of secondary thyroid cancer were more likely to

be small but to occur in more than one location.

Patients with secondary thyroid cancer were more than 6.6 times as likely to die than patients with primary cancer, although survival with treatment is excellent for both at greater than 95%. This study suggests that there may be differences between thyroid cancers seen with or without a prior malignancy.

Goldfarb M, Freyer DR (2014) Comparison of secondary and primary thyroid cancer in adolescents and young adults. *Cancer* February 24 (doi: 10.1002/cncr.28463) (Epub ahead of print)

Cognitive therapy 'safe' for treatment of schizophrenia

Researchers have shown cognitive therapy can be used as a safe and acceptable alternative treatment for people with schizophrenia spectrum disorders who have chosen not to take antipsychotic drugs.

Antipsychotic drugs are usually the first line of treatment for schizophrenia, but many patients refuse or discontinue pharmacological treatment.

Research published in *The Lancet* (Morrison et al, 2014) shows that cognitive therapy significantly reduced psychiatric symptoms in patients not taking antipsychotic drugs.

The study, funded by the National Institute for Health Research, aimed to establish whether cognitive therapy was effective in reducing psychiatric symptoms in people with schizophrenia spectrum disorders

who had chosen not to take antipsychotic drugs.

Researchers randomly selected 74 patients aged 16–65 years with schizophrenia spectrum disorders who had chosen not to take antipsychotic drugs for psychosis at two UK centres between February 2010 and May 2013. The patients were randomly assigned to receive two types of treatment: 37 received cognitive therapy plus treatment as usual and 37 received treatment as usual.

The researchers then looked at each patient's total score on the positive and negative syndrome scale (PANSS). This was assessed at the start of the treatment and at months 3, 6, 9, 12, 15, and 18.

There were eight serious adverse events: two in patients in the cognitive therapy group

(one attempted overdose and one patient presenting risk to others, both after therapy), and six in those in the treatment as usual group (two deaths, both of which were deemed unrelated to trial participation or mental health, three compulsory admissions to hospital for treatment under the Mental Health Act, and one attempted overdose).

Overall the researchers found that cognitive therapy significantly reduced psychiatric symptoms and seems to be a safe and acceptable alternative for people with schizophrenia spectrum disorders who have chosen not to take antipsychotic drugs.

Lead author Professor Anthony Morrison, from the School of Psychological Sciences, University of Manchester, said: 'Our evidence suggests cognitive treatments do benefit patients with schizophrenia spectrum disorders who have chosen not to take antipsychotic drugs but a larger, definitive trial is now needed.' Professor Morrison and colleagues are about to commence such a study.

Morrison AP, Turkington D, Pyle M et al (2014) Cognitive therapy for people with schizophrenia spectrum disorders not taking antipsychotic drugs: a single-blind randomised controlled trial. *Lancet* 5 February (doi: 10.1016/S0140-6736(13)62246-1) (Epub ahead of print)

Drugs cut need for surgery for Crohn's disease by over half

The requirement of bowel surgery is reduced by up to 60% in patients who develop Crohn's disease if they receive prolonged treatment with thiopurines, says a new study (Chatu et al, 2014).

Researchers monitored more than 5000 patients in the UK living with Crohn's disease for more than 20 years and looked at the effect of thiopurines that suppress inflammation in the gut.

Gastroenterologist Dr Richard Pollok, an honorary senior lecturer at St George's, University of London, said: 'Our discovery is timely since new guidelines from the USA have played down the benefits of these drugs in favour of newer agents.'

'A year of treatment with

the newer biologics, which are administered by injection, cost about £10 000 more compared to thiopurines.

He added: 'We try to avoid surgery but some patients face multiple procedures because the disease can flare up again, particularly where the intestine has been rejoined.'

'The fact that thiopurines can cut the need for surgical intervention and remain affordable is good news for patients and the NHS.'

Chatu S, Saxena S, Subramanian V et al (2014) The impact of timing and duration of thiopurine treatment on first intestinal resection in Crohn's disease: National UK Population-Based Study 1989 – 2010. *Am J Gastroenterol* 28 January (doi: 10.1038/ajg.2013.462) (Epub before print)

Addressing inequalities in hip arthroplasties in Scotland

An ecological study was undertaken in Scotland of NHS-funded patients receiving elective hip arthroplasty delivered by the NHS and private hospitals between 1 April 1998 and 31 March 2008. This used routinely collected NHS Scotland data to analyse socioeconomic and geographical inequalities in elective hip arthroplasty treatment before and after the introduction of the waiting time initiatives in Scotland in 2003.

The main outcome measures were directly standardised treatment rates and incidence rate ratios calculated using Poisson regression.

There was a 42% increase in NHS-funded hip arthroplasties carried out in Scotland from 4095 in 2002–3 to 5829 in 2007–8. There is evidence of a statistically sig-

nificant reduction in geographical inequality but no evidence of any statistically significant change in socioeconomic inequality, comparing the 5 years after 1 April 2003 with the 5 years before 1 April 2003.

The reduction in geographical inequality, or 'postcode lottery', in hip arthroplasty treatment in Scotland may be the result of increased NHS capacity, in particular the development of the NHS Golden Jubilee National Hospital in Clydebank, Greater Glasgow as a dedicated centre to reduce surgery waiting times.

Kirkwood G, Pollock AM, Howie C, Wild S (2014) NHS Scotland reduces the postcode lottery for hip arthroplasty: an ecological study of the impact of waiting time initiatives. *J R Soc Med* February 24 (doi: 10.1177/0141076814523950) (Epub before print)

Early antiepileptic treatment reduces length of febrile seizures

New research shows that children with febrile status epilepticus who receive earlier treatment with antiepileptic drugs experience a reduction in the duration of the seizure (Seinfeld et al, 2014). The study suggests that a standard Emergency Medical Services treatment protocol for febrile status epilepticus is needed in the US.

While brief or simple febrile seizures are most common, up to 10% of cases are prolonged and meet the criteria for status epilepticus. Previous research shows that febrile status epilepticus accounts for 25% of all childhood status epilepticus, with more than 70% of status epilepticus cases occurring in the second year of life. Prolonged seizures place patients at risk of short-term and long-term complications, including the development of epilepsy.

‘The time from the start of the seizure to treatment is crucial to improving patient out-

comes,’ said lead author Dr Syndi Seinfeld, assistant professor, Division of Child Neurology at Children’s Hospital of Richmond at Virginia Commonwealth University. ‘Our study is the first to examine the treatment of febrile status epilepticus by Emergency Medical Services, which currently does not have a standard therapy protocol for prolonged seizures.’

The study recruited 199 paediatric patients who were part of the FEBSTAT study (a prospective, multicentre, NIH-funded study looking at the consequences of febrile status epilepticus). The children, between 1 month and 6 years of age, had a seizure or cluster of seizures lasting more than 30 minutes. Researchers analysed the relationship between seizure duration, treatment delay and related morbidity.

Roughly 90% (179) of children received at least one anti-

epileptic drug was needed in 70% (140) of patients to terminate febrile status epilepticus. On average it was 30 minutes from the seizure onset to the time Emergency Medical Services or emergency department staff administered the first antiepileptic drug. The mean seizure time was 81 minutes for children treated before arrival at the emergency depart-

ment and 95 minutes for those who were not.

The average time to end the seizure was 38 minutes following the first antiepileptic drug dose. Seizure duration was 83 minutes in 48% of patients who needed respiratory support and 58 minutes for subjects not requiring respiratory support.

‘Our findings clearly show that early antiepileptic drug initiation results in shorter seizure duration,’ concluded Dr Seinfeld. ‘A standard febrile status epilepticus treatment protocol prior to arrival at the hospital, along with training for Emergency Medical Services staff, is needed across the US to help improve outcomes for children with prolonged seizures.’

Dr Syndi Seinfeld, Assistant Professor, Division of Child Neurology, Children’s Hospital of Richmond, Virginia Commonwealth University, Richmond, Virginia



Seinfeld S, Shinnar S, Sun S et al, and the FEBSTAT study team (2014) Emergency management of febrile status epilepticus: Results of The FEBSTAT study. *Epilepsia* February 6 (doi: 10.1111/epi.12526) (Epub ahead of print)

Could restless sleep cause widespread pain in the over 50s?

Researchers report that non-restorative sleep is the strongest independent predictor of widespread pain onset among adults over the age of 50 years (McBeth et al, 2014). Anxiety, memory impairment and poor physical health among older adults may also increase the risk of developing widespread pain.

Muscle, bone and nerve (musculoskeletal) pain is more prevalent as people age, with up to 80% of people 65 years of age and older experiencing daily pain. Widespread pain that affects multiple areas of the body – the hallmark feature of fibromyalgia – affects 15% of women and 10% of

men over 50 years of age according to previous studies.

Led by Dr John McBeth from the Arthritis Research UK Primary Care Centre, Keele University in Staffordshire, this population-based prospective study identified factors that increase the risk of the development of widespread pain in older adults.

The team collected data on pain, psychological and physical health, lifestyle and demographic information from 4326 adults over the age of 50 years who were free of widespread pain at the start of the study (1562 subjects reported no pain and 2764 had some pain). These participants were

followed up 3 years later for the development of widespread pain.

At follow up, 800 (19%) reported new widespread pain. The development of new widespread pain was greater in those with some pain at the start of the study; 679 (25%) of those with some pain and 121 (8%) of those with no pain at the start developed new widespread pain at 3-year follow up.

Analyses determined that pain status, anxiety, physical health-related quality of life, cognitive complaint and non-restorative sleep were associated with increased risk of widespread pain development, after adjusting for osteoarthritis.

Increasing age was associated with a decreased likelihood of the development of widespread pain.

‘While osteoarthritis is linked to new onset of widespread pain, our findings also found that poor sleep, cognition, and physical and psychological health may increase pain risk,’ concludes Dr McBeth. ‘Combined interventions that treat both site-specific and widespread pain are needed for older adults.’

McBeth J, Lacey RJ, Wilkie R (2014) Predictors of new-onset widespread pain in older adults: results from a population-based prospective cohort study in the UK. *Arthritis Rheumatol* 66(3): 757–67 (doi: 10.1002/art.38284)