

Viral rebound

How stop-start spelled the end for SMART

The sudden cancellation of a large HIV clinical study has significant implications for how we treat HIV. KIRSTY MACHON reports.

Taking a break from HIV treatments can appreciably increase your risk of developing an AIDS-related condition, experiencing serious health problems, or even dying, a large international randomised study comparing continuous treatment to intermittent therapy has concluded.

The SMART (Strategies for Management of Antiretroviral Therapy) study set out to compare two different approaches to HIV treatment – continuous antiviral therapy, aimed at keeping viral load low, versus intermittent treatment with breaks when CD4 counts rose above set levels.

Although the majority of people in both arms of the study remained well, researchers were forced to halt enrolment into the landmark trial in January when it emerged that substantially more people died, developed AIDS, or suffered serious health issues following treatment interruptions guided by CD4 count, compared to those who remained on continuous antiviral therapy.

But while SMART researchers say that the study question has been answered – remaining on treatments once you've started them is a less risky strategy than stop-starting according to your CD4 count – the surprise results have raised some important questions.

Of particular interest was the fact that, contrary to what



many expected, reducing exposure to antiviral treatment by taking breaks did not, in this trial, reduce the risk of developing problems associated with long-term exposure to

antiretroviral drugs, such as cardiovascular disease, kidney toxicities and liver problems. In fact, quite the opposite occurred: people who interrupted treatment ended up

being more likely to suffer from these problems. This has led some to hypothesise that the body's immunological and virological responses to periodically going on and off

treatment might themselves pose a risk.

Typically, when a person comes off treatment, the virus begins to replicate and their CD4 cell count drops fairly quickly. Tied to this are complex inflammatory and immune system responses, and some people believe that these processes themselves may lead to an increased risk of some of the adverse outcomes observed in SMART.

INTERPRETING THE STUDY

SMART, which was conducted in over 30 countries, compared two treatment strategies. At the time enrolment was stopped, 5472 people had been randomised into the study. In the Viral Suppression arm, people were required to take antiretroviral treatments continuously for the duration of the study, with the aim of keeping HIV as fully suppressed or controlled as possible. In the Drug Conservation arm, participants would cease antiviral treatment once their CD4 count had been sustained at 350 cells/mm³ or above for a 2-3 month period, then resume treatment if they dropped to less than 250 cells (below which the risk of disease progression is considered high).

(To avoid confusion, in this article the two arms are referred to as 'continuous treatment' and 'intermittent treatment', rather than 'Viral Suppression' and 'Drug Conservation', the terminology used by the researchers.)

SMART intended to explore, among other things, whether using antiviral drugs only at the times when an individual was most at risk of HIV disease progression (defined by CD4 cell count) would, over a long period of time (6-9 years) be

SMART IN SUMMARY

- Participants either took continuous anti-HIV treatment or stopped and started as their CD4 cell count rose and fell.
- Significantly more people died or developed an AIDS-defining illness if they stopped and started treatment – there were roughly twice as many of these serious adverse events in the intermittent treatment arm.
- Overall, the risk of death or serious illness was low in both arms, but the clear difference between them meant the study was terminated for ethical reasons. Researchers say the study question has been answered and that continuous treatment is superior.
- There were also higher levels of side effects and toxicities among those on intermittent treatment, challenging the idea that treatment breaks could reduce these problems.

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INSIDE

Depression affects up to 30 percent of people living with HIV. How to recognise the signs, and where to get help. PAGE 7

Christmas with the HIV children in Romania

Travellers at risk

The Western Australian health department says the number of people from that state who have contracted HIV while working or travelling overseas has more than doubled in the last two years. A significant number of the reported cases were among people employed in the mining, engineering and travel industries. The health department has launched an education campaign, in partnership with the WA AIDS Council, to increase awareness of the risk of contracting HIV while travelling. — ABC News

Clinton partnership launched

Visiting Australia in February, former US President Bill Clinton has announced a new partnership between the Clinton Foundation and the Australian government to fight HIV/AIDS in our region. Australia will provide \$25 million through AusAID to support Clinton Foundation projects in China, Vietnam and Papua New Guinea. In 2005, more than half a million people in the Asia-Pacific region died from AIDS-related diseases. The former president also made headlines recently by calling for mandatory testing for HIV/AIDS in high-prevalence countries where treatments were available.

Make that '1.3 by 5'

The final report on the World Health Organisation's ambitious '3 by 5' plan to get three million people on HIV treatment by the end of 2005 has found that only 1.3 million people in poor countries had access to treatment by the 1 December deadline last year. Despite falling short of the goal, the WHO insisted that the plan had been successful, with a marked increase in the number of people on treatment from 400,000 at the plan's commencement in 2003. The WHO has unveiled a new plan, to make treatment available to all people who need it by 1 December 2010.

HIV and the new IR laws

Changes to unfair dismissal rules under the federal government's 'WorkChoices' industrial relations reforms, which came into operation in March, will not affect the protection of people with HIV/AIDS from employment-related discrimination. While unfair dismissal actions will now not be possible for many workers, the new laws specifically preserve prohibitions on 'unlawful termination,' including for reasons of disability, sexual preference or HIV status.

LA bans unprotected sex

New regulations passed in January by the Los Angeles Board of Supervisors in the US effectively ban all unprotected sex at commercial sex-on-premises venues (saunas and sex clubs) in the LA area. The regulations also require sex venues to pay an annual licence fee, undergo quarterly health inspections and display signs and posters reminding patrons that unprotected sex is not allowed. The changes were brought in after several studies showed that large numbers of HIV-positive men use the sex venues. —The Advocate

'I showered to prevent HIV'

The former deputy president of South Africa, Jacob Zuma, currently on trial for the alleged rape of an HIV-positive AIDS activist, stunned courtroom observers on 6 April when he said he thought the risk of contracting HIV from the woman was small and that he had taken a shower after sex to prevent infection. "It was one of the things that would minimise the risk of contracting the disease," said the former head of the country's National AIDS Council, who denies raping the 31-year-old family friend at his home in Johannesburg. The trial continues.

Romania is busy preparing for entry to the EU and signs of progress are everywhere in Bucharest. But Romanian society has not yet found a zone of comfort. Social solidarity did good things but was abused by the communists. The church is a strong influence but it is battling against consumerism. Not everyone is able to put aside some of the horrors of the Ceausescu period, or even to talk freely about them.

I'm busy here in Romania but I took time off to visit a doctor I met by accident a few days ago. He's the manager of a small hospital for infectious diseases at Singureni, just 35 kms south of Bucharest. It's a big step backwards in time. There are more horses and carts than cars, and the hospital's facilities are 50 years behind those in the hospitals in Bucharest.

But it has one big advantage: you can easily find cheap space for an unprofitable activity like caring for children with HIV. Romania has relatively low rates of HIV, but the large majority (over 5000) are orphaned children, and Singureni Hospital accommodates 45 of them.

In the late 1980s, medical practice included giving children blood transfusions to improve their general health, although it has long been known that it seldom has any benefit and often has risks. This became evident when contaminated blood supplies directly transmitted HIV and re-used needles transmitted it indirectly. Some of the children were already orphans when infected, and others were abandoned after being infected.

Much has been done to improve their lives, with both local and international support. In recent years, better treatment has reduced the annual mortality rate from around 15 percent to below 3 percent, and the surviving children are healthier. For example, their rate of hospitalisation for HIV-associated complications has fallen by around 90 percent (but it is still terribly high).

The Singureni HIV children are in two groups. One group of 35 is supported by an Italian company, and I was told it was at least partly a

I would like to try to help on the gritty eyes problem addressed by a gentleman in *Positive Living* (Oct-Nov 2005).

I have had exactly the same gritty, dry, itching eyes, especially in the morning hours. Dryness was so bad I used to feel like some sand particles were trapped under my eyelids.

Unaware of my problem, one day my doctor prescribed azithromycin tablets to suppress CMV in my eyes. He said 95 percent of the general

marketing venture. I have no way of judging the motives, but the children are obviously benefiting.

The other group of 19 is in the care of the hospital manager, Dr Paul Marinescu. He took 30 children from an orphanage in another town about eight years ago, and obtained permission to redesign an old part of the hospital to be more like a family home. The differences between their environment and what I saw in orphanages seemed very large to me. None of the children were withdrawn, they treated each other with respect, and everyone was made to feel they belonged.

The hospital manager gave up a much more senior position to work in Singureni. He says they fixed up his life. All the children, now aged from 13 to 17, call him 'father' and treat each other like siblings.

Thirteen of the children died within two years, but since then donations of antiretroviral drugs have prevented more deaths and greatly improved health status overall. Three of the children were in hospital when I visited. Some have other chronic illnesses and two have serious disabilities. I asked the manager how he coped with death, and how the children managed the loss of their siblings; he couldn't answer.

I thought it was hard enough to live with just one child going through the teenage years. I find it difficult to imagine coping with 19 with all of their various challenges, as Dr Paul



Happy and well-adjusted . . . children from the orphanage and their friends. PHOTO: DON HINDLE

must do. He has many schemes but success is elusive. For example, he would like to establish a handicrafts business that could employ several of the children and give them all a refuge in hard times. Three of the children love livestock farming and have assembled a mix of ducks and hens through their own ingenuity, and Dr Paul would like to establish a smallholding as a source of income. But there is no source of capital, or of business advice. It has been hard enough to survive thus far, when there has at least been a degree of sympathy that small children can attract. The future seems more problematic.

My Romanian friends are angry that the world has largely forgotten the children, and even more angry that Romanians have done so too. But there are many other Romanians who say "We can't do everything, there are other people in need, their parents should come forward". In short, the arguments about the poor and the disadvantaged are much the same here as in Australia.

In all, the Singureni children seemed surprising happy and well-adjusted, and they don't seem to complain about their lot as much as many children who live in Australia.

■ Don Hindle is Visiting Professor in the Medical Faculty, University of NSW. Donations to help the Singureni hospital are welcome – contact Dr Paul (manolesculoredana@yahoo.com) or Don Hindle (don.hindle@pobox.com).

Letters



dry mouth toothpaste. The full moisturising effects start showing up after some 4-5 weeks. The instructions in the box advise brushing of not only teeth and gums but tongue as well.

I hope my letter will be of genuine help to those who have been sharing the same experiences.

Regards
Michael, Victoria

■ Letters to PL are welcome. Our contact details are on page 10.

Surge in new infections

A substantial rise in new HIV diagnoses in Victoria has meant the number of people diagnosed Australia wide has continued to rise, causing widespread concern among governments and community groups.

Victoria recorded 286 new cases of HIV in 2005; a 28 percent rise over the 223 cases recorded the previous year and the highest since 1991. All of Australia's eastern states have recorded big rises in HIV incidence over recent years, prompting fears of a resurgent epidemic and heated discussion about the possible causes for the rises.

In NSW, new infections fell slightly from 405 to 392 last year, the second recorded fall in two years after rises in 2002 and 2003. Queensland recorded 150 new infections, up from 137 in 2004 – a 9.5 percent increase and the state's second increase in a row, and rises have also been recorded in other states. The majority of new infections are among gay men in their late 30s and early 40s.

With a pronounced trend nationwide towards increases in new infections, AIDS Councils and state health departments have expressed concern at continued evidence of high

levels of unprotected sex among gay men.

"We know that there's a big gap between hearing ... and [putting into effect] those safe-sex messages on every occasion," Victorian AIDS Council executive director Mike Kennedy told the *Sydney Star Observer*.

While most gay men continue to practice safe sex, Gay Community Periodic Surveys in all of the big states have recorded high levels of unprotected sex among gay men in recent years. In the most recent survey in Victoria, for example, about 30 percent of gay men said they had had unprotected anal intercourse with a casual partner on at least one occasion in the previous six months.

Coupled with this, rates of STIs are also at an all-time high. Having an STI such as gonorrhoea, syphilis or chlamydia can increase the risk of getting or passing on HIV – some STIs cause small breaks in the skin through which the virus can pass, and having an STI increases the amount of virus in the semen.

Another issue that has been raised by several experts is poor communication between gay men when 'serosorting' (choosing a

partner with the same HIV status in order to have unprotected sex). Questions have been raised about the ways in which gay men make assessments about the HIV status of their partners, especially in environments where there is less likelihood of an explicit discussion, such as sex-on-premises venues.

"Often the basis on [gay men are] making those assessments about whether someone is positive or negative is not accurate," said Stevie Clayton, CEO of ACON, also in the SSO.

Surveys have shown that surprisingly high numbers of HIV-negative gay men expect casual partners to disclose whether they have HIV, but many HIV-positive gay men continue to struggle with disclosure in an environment where stigma and rejection remain real issues. "If your experience of disclosure is that you get dumped, you may choose not to disclose," said 'Allan', an HIV-positive Melbourne man quoted in *The Age*.

Health officials and community representatives met in Melbourne in March to discuss the rises and plan possible educational responses over the coming months.



AIDS Trust of Australia directors Barry Horwood (left) and Tim Berry (centre) examine the new water pump at the Children of Hope orphanage in Battambang, Cambodia. The AIDS Trust has been helping to fund the building of the Buddhist orphanage, which cares for children who are HIV-positive and others who have lost their parents to HIV/AIDS. Horwood told *PL*: "It was a joy to visit the orphanage recently and to receive such a warm welcome from the children. The AIDS Trust's main purpose is to raise funds for people living with HIV/AIDS in Australia but when several benefactors offered to help raise funds for this very worthy project, we were happy to help make it happen."

Psychologists to be covered by Medicare

A \$1.8 billion, five year plan announced by Prime Minister John Howard in early April will increase mental health services and provide Medicare rebates for psychologists for the first time.

From 1 November 2006, Medicare will be extended to cover psychologists' fees, making specialist care for depression and mental illness more affordable. Describing the move as a "massive breakthrough," the Prime

Minister said the plan was aimed at turning around years of neglect of mental health services by state and federal governments and widespread concerns of a growing and hidden mental health epidemic in Australia.

The director of the Australian Psychological Society's branch and regional operations, Ted Campbell, said the detail is still to be assessed, but people who were previously

unable to afford psychological treatment will now be able to.

"I'm genuinely delighted that after many years of campaigning that the carers, the sufferers and the health professionals associated with mental health care seem at last to have got the ear of government," he told ABC Radio.

■ Turn to page 7 of this issue of *PL* for an in-depth look at depression and HIV.

THIS issue

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Verbatim

"Misinformation about the disease and stigma against living with HIV still hamper prevention, care and treatment efforts everywhere."

Peter Piot, executive director of UNAIDS, in a statement to mark International Women's Day. While the cost of first-line antiviral regimens has fallen by between 37 and 53 percent, Piot said the UN's HIV/AIDS treatments programs face an US\$18 billion shortfall in the 2005-2007 period.

"I can't wait to be at my own funeral service."

HIV-positive South African Solomon Zimba, who plans to host his own 'funeral' on 27 September, the tenth anniversary of his HIV diagnosis. "I know I am going to die, but I want my family and friends to attend my funeral while I am still alive," the 32-year-old said.

"Ignorance and lack of understanding about these issues sometimes breed uncertainty, even fear and the inclination to turn from those who are unwell."

Queen Elizabeth II, delivering her annual Commonwealth Day address in Sydney on 13 March. The monarch's address this year focused on HIV/AIDS.

FIGURE this

8%

The proportion of Britons who don't know how HIV is transmitted, according to a poll conducted by the National AIDS Trust. The poll found that understanding of HIV in the UK had fallen significantly since the last poll five years ago.

34

The average life expectancy of women in Zimbabwe, according to a UN report. The country's women have the lowest life expectancy in the world, due to poverty and HIV/AIDS, the report said.

1800

The number of HIV-infected babies born worldwide each day because their mothers cannot access antiretroviral drugs, according to a WHO report issued in March. The WHO estimates that 660,000 children under the age of 15 are in urgent need of anti-HIV drugs.

Viral rebound

CONTINUED FROM PAGE 1



no less effective a strategy for managing HIV infection than using the available drugs continuously. In addition, the study examined whether conserving the use of antivirals in this way would reduce some of the toxicities and side effects of treatment.

In January 2006, however, the study's Data Safety and Monitoring Board (which keeps track of the study to ensure it is safe or ethical to continue) had to deal with some worrying news. It was revealed that 93 people in the intermittent treatment arm had died or developed an AIDS-related condition, compared to 44 people in the continuous treatment arm.

In nearly half of these events, the participants had died (47 deaths were recorded in the intermittent treatment arm, and 27 in the continuous treatment arm), with oesophageal candidiasis (thrush in the gullet and throat) being the second most commonly reported serious event. In other words, there was roughly a doubling of the risk for people who interrupted treatment.

It should also be noted that not all deaths were related to AIDS or HIV treatment toxicity. In both arms, there were a small number of deaths from violent or accidental causes. However, the number of these deaths was the same in each arm, so the statistical difference in deaths related to AIDS between each arm does remain real.

One important and under-reported aspect of these results is that, overall, the numbers of people who developed AIDS or died on the study was actually very small, in the context of the five-and-a-half thousand people enrolled. The vast majority of people on the study remained well. SMART did not show that high numbers of people died or got sick immediately when they stopped taking treatments. But it did answer the question researchers set out to: compared to remaining on therapy, people interrupting treatment did worse.

The results pose some other perplexing challenges to prevailing wisdom. For example, the risk of developing AIDS and opportunistic illness is well known to increase as CD4 count decreases. But in SMART, neither the number of CD4 cells a person had on entering the study nor their lowest-ever CD4 cell count (nadir) made a difference to their likelihood of developing an AIDS-related condition or adverse event. Regardless of CD4 count, it was stopping treatment which was associated with an increased risk of disease progression.

Furthermore, people who entered the study while taking antiretroviral therapy were three-and-half times more likely to experience an adverse health event if they had undetectable viral load, compared to someone on treatment but with detectable viral load.

The SMART results certainly show that rapid loss of CD4 cells can occur on stopping treatment, something researchers anticipated based on anecdote and other clinical studies. When people stopped antiviral treatment after being randomised to the intermittent treatment arm, there was an average decrease of about 173 CD4 cells in the first month after stopping. After the initial drop, CD4 cells continued to decline, though much more slowly, on average by about four cells per month.

WHAT ABOUT TOXICITIES?

When SMART was first designed, it was anticipated that there would be demonstrable risks associated with stopping treatment for periods of time. One of the hopes was that the study might show that this was

compensated, or 'made up for', by reduced treatments-related toxicity among people taking breaks. Frustratingly, this seems not to have been the case – and this was one of the reasons that the study was stopped. SMART looked at many of the adverse events and problems often attributed to HIV treatments, such as metabolic complications (like blood sugar problems or diabetes), cardiovascular (heart and artery) disease, pancreatitis, lactic acidosis, and liver or kidney failure.

There was no toxicity endpoint where people randomised to treatment interruption had a better outcome than those who stayed on antivirals. For virtually all conditions, there was a higher risk of developing treatment toxicities in the treatment interruption group. In other words, stopping treatment actually increased the risk of potentially life-threatening treatment toxicities.

WHAT'S THE EXPLANATION FOR ALL OF THIS?

Presenting the results of SMART at the Denver

conference on Retroviruses and Opportunistic Infections, researcher Wafaa El-Sadr noted that one explanation for the differences could be linked to increased levels of inflammation and immune system activation which can occur when viral load or CD4 levels fluctuate or change rapidly.

Overall, people in the study who interrupted treatment spent longer periods of time with lower CD4 counts, and were more likely to experience fluctuating levels of virus, as they stop-started antiviral treatment. Chronic inflammatory action in the body is known to be a risk factor for cardiovascular disease anyway – and this may explain in particular why cardiovascular complications were not reduced just by stopping treatment, El-Sadr told the conference.

IS THIS THE END FOR DRUG HOLIDAYS?

The clear implication of the SMART outcome is that once you start taking HIV antiviral treatment, it's best and safest to remain on treatment. This has

been characterised by some as 'antiviral treatment is for life', and it's pretty obvious from SMART that treatment breaks shouldn't be considered an equivalent 'management strategy' to continuous treatment, since there is appreciable risk you'll do worse in the long term. The idea that treatment breaks are a form of 'detoxification' from antiviral treatments, for example, or that the health outcomes are the same as staying on treatment, is clearly not borne out by SMART.

On the other hand, the reasons why people stop taking HIV treatments are many and varied, and the evidence from SMART as well as our cumulative experience of antiviral therapy is that many people can and do stop treatment for periods of time without suffering immediately catastrophic results or illness. However, SMART has shown us that the risks are very real and quantifiable, and this needs to be well understood.

One thing SMART definitely points to is the ongoing need to be proactive in finding combinations of drugs that are tolerable, easy to take, and with minimal side effects. If you're considering taking a treatment break due to tolerability problems with your current combination, it would be prudent to first of all see whether there is a different combination you could switch to with a better side effect profile, allowing you to stay on treatment. If you're on your first drug combination with well-controlled viral load, a good CD4 count, and several new drugs around to choose from, this choice will be particularly important – so that you can remain on treatment, and preserve the advantage you have, and minimise the particular risks associated with stopping treatment if your viral load is low.

It also suggests that if you're starting treatment for the first time, you should be prepared to stick with it – and you should expect the support of your doctor in helping you choose a realistic drug combination that you're able to live with.

It's expected that participants in SMART will be followed up in some way, at least in the short term. Investigators have been advised that those people randomised to treatment interruptions should be advised to go back onto treatments. Meanwhile, the data-and-numbers crunching continues, as researchers look further into this perhaps disappointing, but compelling, result.

Breaking the rules? Studies leave some experts perplexed, divided

SMART was not the only study on treatment interruptions to be presented at the 13th Conference on Retroviruses and Opportunistic Infections in February. Several other studies were also presented looking at various treatment break strategies. SMART was by far the largest, and because of its design, the results widely considered to be the most applicable and robust. But a panel discussion on the issues raised heard that further work was needed to understand the implications of different studies and approaches, especially since, in the words of one New York-based HIV treatments advocate, "the assumption that most people are going to be on therapy for the rest of their lives is not a practical assumption."

Against treatment breaks

A French study called **Trivicam**, being conducted in the Ivory Coast in Africa, examined fixed length treatment interruption (two months on, two months off), guided by CD4 count (as with SMART), compared with continuous treatment. There were 840 participants. The treatment interruption arm was stopped early, due to significantly more serious illness occurring in this arm.

Hedging their bets

A second French study, the **Window** study, examined a complex strategy using treatment interruptions of increasing length, in people experienced in antiviral therapy, compared to remaining on treatment. With a sample size of 391, it was significantly smaller than SMART, and its endpoint was not clinical progression to illness or death, but the number of people whose CD4 counts fell below 300. By this definition, the treatment interruption arm was declared 'non-inferior' – a technical term which essentially means that although the study couldn't conclude that the two strategies were equal, nor was there enough difference between the two arms to argue that staying on therapy was definitely a better approach.

An Italian study, using a similarly complex pattern of treatment interruption also found this to be 'non-inferior' to continuous therapy. This was a smaller study again (273 people) and its endpoint was, again, not clinical progression to illness or death, but the proportion of people who retained more than 500 CD4 cells. In addition, this study group had overall much higher CD4 counts on entering the study. There was little major illness or death seen in this study, but the caution is that this was a very different group of people to the SMART study.

The announcement of the premature end of the SMART study has come as a body blow for many people living with HIV. The conclusion drawn by the researchers behind the study – that treatment breaks have more risks than benefits – suggests, on the surface at least, that those of us on treatment will be taking pills every day for the rest of our lives. It's a depressing piece of news, to say the least.

Doctors have long hoped that structured treatment interruptions might not only be safe, but could actually prime the immune system to deal more effectively with HIV. SMART and other studies have shown that this is not the case, but is there still a role for treatment breaks in our lives?

There's really no doubt now that, from a medical viewpoint, treatment breaks are not a good idea but, like everything in HIV, medical evidence is only part of the picture.

There are many reasons why positive people might decide to take a break from treatments apart from the medical reasons that guided SMART. Problems coping with side effects, overseas travel, fear of long-term toxicities or just the desire to have a break from the daily ritual of pill-popping are all reasons why some people have interrupted their treatment. Doctors sometimes recommend treatment breaks for people who have short-term problems with adherence, or for those who have few treatment options but aren't in immediate danger of AIDS-related illnesses.

Peter (not his real name) is a 35-year-old gay man living in Melbourne who spoke to *PL* about his decision to take a treatment break. After five years on his first drug combination, he and his doctor decided to try a treatment break after his CD4 count rose to about 800 and his viral load had been undetectable for a long period.

"I raised the issue with my doctor and he was really happy to support my decision, as long as I came in for regular checkups during the time off treatment," Peter said. "I'd been on a combination of nevirapine and Combivir for several years and I was worried about the long-term effects of the AZT in the Combivir. We discussed changing to another drug but I wanted to see if I could take a break from the pills altogether for a while, and he agreed to give it a go."



TREATMENT BREAKS

an individual perspective

Because nevirapine remains in the bloodstream much longer than most other drugs, Peter wasn't able to simply stop the pills. Instead, he had to switch to Kaletra for a couple of weeks to cover the period while the nevirapine washed out of his system. Doing this helps to prevent the emergence of resistance to the nevirapine during the wash-out period – because Peter was still responding well to nevirapine, his doctor wanted to be especially careful that he had the option to go back on it in the future if he needed to.

Peter found the switch to Kaletra very hard on his system. "I'd had some side effects from the drugs I was on, but nothing like this. Nausea, diarrhoea, stomach cramps and generally feeling lousy all the time. I found it really hard to take the Kaletra; I had to keep

reminding myself that it was only for two weeks."

With the wash-out period behind him, Peter was able to start his treatment break in earnest and was generally happy with the decision to grant himself a holiday from pill-popping. His doctor asked him to come back for checkups and blood tests after one month and every three months after that. He told Peter to expect that his viral load would rise and CD4 count could fall during the treatment interruption, but hopefully not so greatly that he would have to resume treatment too soon.

"It took a little while for my body to become used to not taking treatment," Peter said. "I was expecting to feel much healthier without the drugs circulating in my body, but instead at first I found the reverse was true. I had a few

problems with sore throats and feeling fluey in the first month after I stopped the pills, but then that seemed to settle down."

After three months off treatment, Peter started noticing other minor problems, such as mouth ulcers, sinus infections and skin problems which he'd not had before. "I knew from my doctor that these are signs of lower immunity, so I went back for another check-up. My T-cells had gone down to just over 300 and my viral load was through the roof, so now I'm about to go back on treatment."

Peter says he's generally happy he took his treatment break, but disappointed that it wasn't able to be maintained for a longer period, and that he didn't feel as well during the break as he expected to.

"With the Kaletra, the initial period of adjustment and then

the last few weeks of dealing with all these annoying health problems, I guess I only had a month or so of being off treatment and feeling OK. I'm still glad I took the break – at least now because I have a real idea of the difference between being on and off treatment, and I wanted to change treatments anyway, so maybe I would have had to deal with some of this stuff regardless."

Peter says he's still worried about the long-term effects of his treatments and he still hopes that one day he'll be able to take a longer break, but for now his experience has made him aware that treatments are likely to be a daily feature of his life for the foreseeable future: "I guess it showed me that the grass isn't necessarily greener on the other side of the fence," he said.

—Paul Kidd

Not all my days are the same, but Thursday is the day I do my volunteer work for PLWHA NSW, something I look forward to each week. Going into the office makes me feel good, it gives me purpose and motivation, and allows me to enter an environment that I always find welcoming, friendly and rewarding.

So I stumble out of bed, find an uneasy and often painful balance on two feet that have been badly damaged by neuropathy and make my way into the kitchen. I go to the fridge, take out a small glass vial that I have placed there the evening before and begin to arrange my first 'treatment' of the day – a jab of T-20 that will be sure to take the sleep out of my eyes!



One day

BY IAN J. THOMPSON

Today though, I'm finding it hard to find a spot that isn't swollen or sore from the collective damage that has been done to my stomach and thighs as the result of all my previous jabs. So I decide to use the advice of my doctor, recently given me, and find some flesh on my upper arm that I can pinch together while I place a clothes peg on it to allow the needle access into my body.

The pinching of the peg hurts me almost as much as the needle does, and even though I have dabbed the chosen site well with

numbing lignocaine I still feel a sharp sting as it enters me. "Too impatient," I mutter to myself, "should have waited longer for the anaesthetic to kick in." I prepare the next dose ready for refrigeration until this evening.

In the PLWHA office in Oxford Street, I am able to help out by answering the telephone, filling envelopes or doing any of the other little jobs the staff may have for me. Being a member of the board, I also find this is a good way of keeping in touch with the day-to-day functioning of the

organisation.

Time passes rapidly and soon I head off for my weekly appointment with my GP. Over 20 years I have built up a very good rapport with my doctor and the surgery receptionists – it's more like visiting friends than visiting the doctor.

I arrive home around 3.30 and am greeted happily by my furry friend, Snuffy, who woos me into the calmness and relative tranquillity of my nest with her purrs and funny little squeaks and squeals.

After resting for an hour or more I have my second T-20 jab. Not wanting to repeat the awkwardness of the peg incident I finally find a spot on my thigh that does not feel too tender and administer the shot. Even though the lignocaine again eases the pain, I curse, but then I remember just how effective this present combination has so far proved to be and with that thought my discomfort passes away.

Contributions to this column from readers are welcomed. Tell us in 400 words about one day of your life as a person living with HIV/AIDS. Published contributions are eligible to receive a payment. Contact the editor (see page 10) for further information.

What is the place of T-20 in the spectrum of HIV treatment, and when is the best time to start treatment on T-20? These were among the questions considered at a meeting in Sydney on Saturday 8 April.

Also called enfuvirtide or Fuzeon, T-20 is something of an enigma among HIV treatments. It's one of the most effective and technologically advanced drugs we have – something that is attested to by the numerous stories of positive people whose lives have literally been turned around after taking it. But it is administered by twice-daily injections, making it inconvenient and not appropriate for all patients. Because of this, its use is restricted almost exclusively to salvage therapy settings – often as a 'last resort' drug for people who have otherwise exhausted their treatment options.

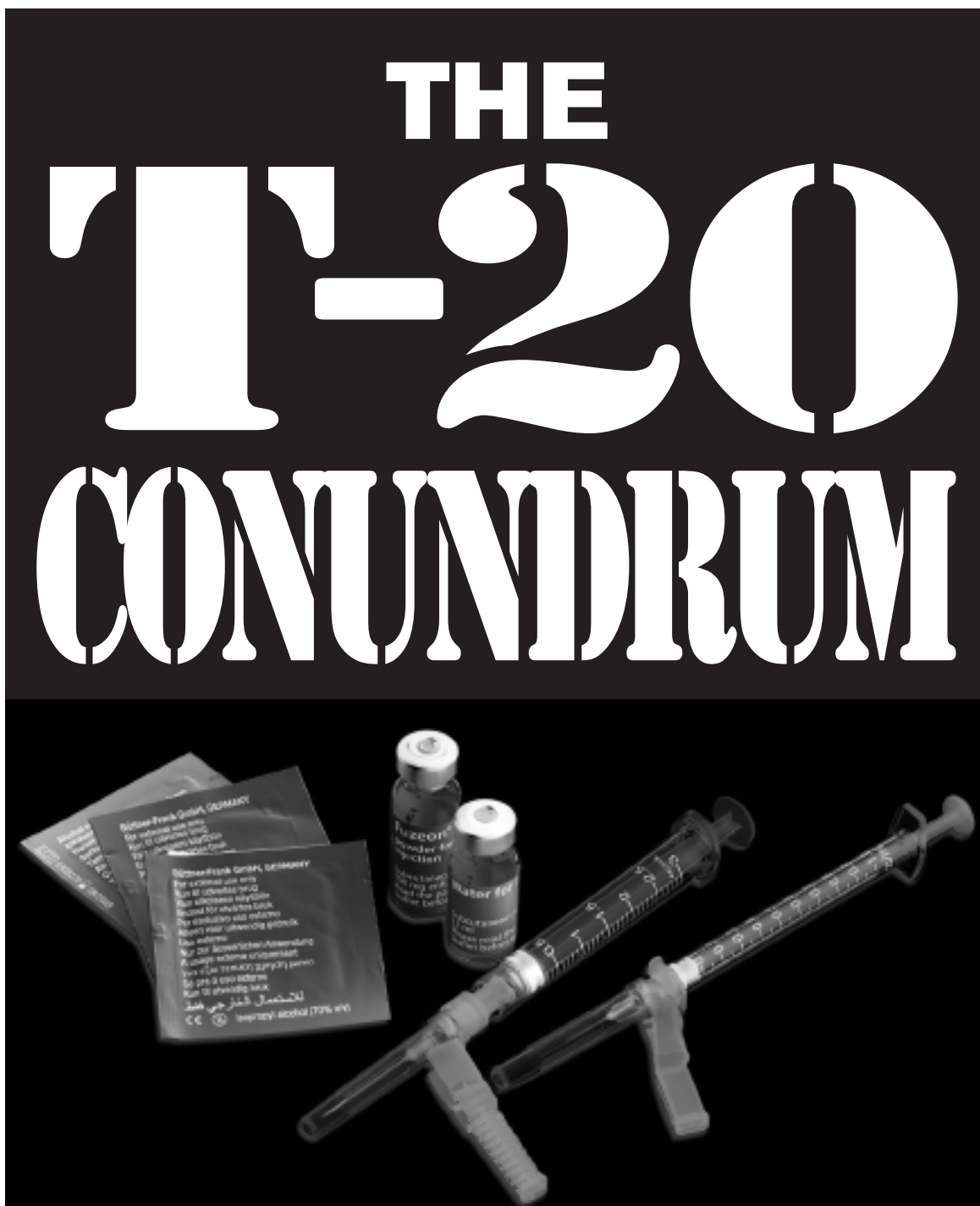
The manufacturer of T-20, Roche, is understandably concerned that, after investing millions of dollars bringing the drug to market, only a handful of positive people are using it. The company is worried that concerns about patients' abilities to manage the twice-daily injection routine are discouraging doctors from prescribing T-20 to people who might gain a benefit from the treatment, and perhaps risking treatment failure by holding T-20 back for too long.

But the question of when is the best time to start T-20 is a thorny one. We know that, whatever stage of HIV therapy you're at, the best results come from starting on or switching to a treatment regimen made up of drugs you've never taken before, and to which there's no pre-existing resistance or cross-resistance. Ideally, each new regimen should include drugs from a treatment class that has not been used before. But with just two drug classes – protease inhibitors and non-nucleosides – forming the basis of the vast majority of treatment regimens, this gives each patient just two bites of the treatment cherry – called 'first-line' and 'second-line' treatment – before treatment choices start to become more complex.

Eventually, some people end up needing 'salvage' treatment which, as the name suggests, involves using whatever tools are at hand to preserve health, and sometimes paying less attention to the rules that guide first and second-line regimens.

Somewhere into this spectrum – from first-line treatment to salvage – fits T-20. While the major clinical trials of T-20 were carried out in heavily pre-treated people using optimised background regimens often composed of 'recycled' treatments (which the participants had previously taken and/or were resistant to), the arrival of newer drugs presents the opportunity to use T-20 in a less of a 'last-ditch' fashion.

In recent clinical trials, patients taking experimental treatments such as tipranavir,



darunavir (TMC-114) and CCR5 inhibitors had significantly better results if they also took T-20 during the trials – the so-called 'Fuzeon effect' (see graphic). With tipranavir and darunavir now available through special assistance schemes and other new drugs on-track to become available in the next few years, there is the prospect of inserting another step into the treatment spectrum, a 'third line' of intensified treatment with new agents and T-20, and delaying, perhaps inevitably, the need for a salvage approach.

As with any anti-HIV treatment, resistance to T-20 can develop if the drug is taken in a 'sub-optimal' way. If the viral load is not brought down to undetectable levels, the unsuppressed virus will evolve to become resistant to the treatments the individual is taken, and the viral load will

start to rise. With T-20 being held in reserve as a last resort, there's a risk that it will be added to an already-failing regimen, with limited effect and possibly the creation of T-20 resistance.

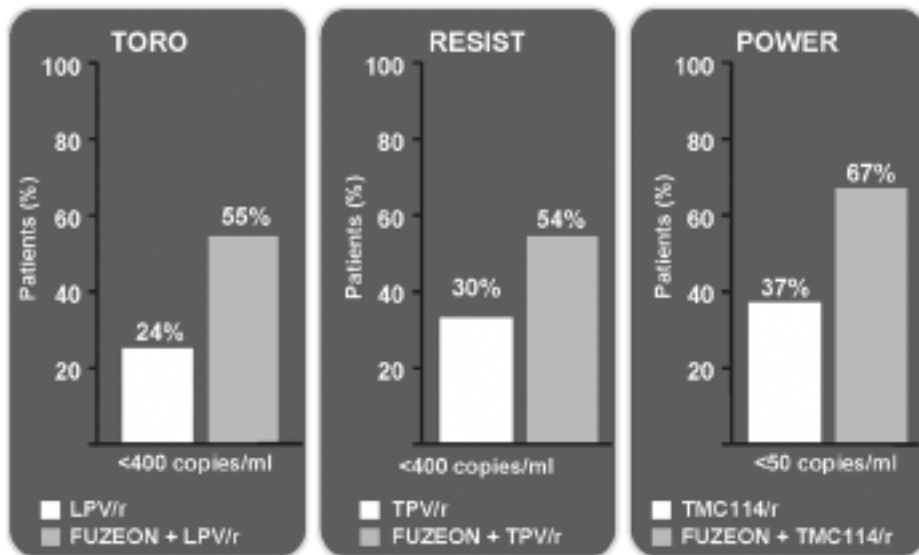
Making the decision about when to introduce T-20 is complex, Professor Christine Katlama, the head of the AIDS Clinical Research Unit at the Pitié-Salpêtrière Hospital in Paris, told the meeting, and simple recommendations are difficult to make due to different patient characteristics, CD4 count and individual treatment experience. Katlama argued that, as well as the objective of preventing disease progression, HIV treatment needs to help preserve the patient's quality of life, and it needs to be acknowledged that any HIV treatment, with or without T-20, needs to be taken over many years to be effective.

For people living with HIV,

the decision to start on T-20 can be a hard one. As well as the nuisance and pain of the daily injections, many positive people say that the prospect of taking such a 'hard-core' treatment provides a sudden indication that their medical condition has worsened.

In order to understand the barriers to starting treatment on T-20, in early 2005 Roche funded a study, called "Open Mind", in which physicians and HIV-positive people in five European countries and the United States were interviewed about their experience with T-20 and attitudes towards it. The results were presented as posters at the 10th European AIDS Clinical Society (EACS) conference in November 2005.

While there are significant questions about this study – it generated a heated debate at the Sydney meeting – some of the statistics are striking.



THE 'Fuzeon Effect'

This graph shows the increased virological response seen in clinical trials for highly treatment-experienced patients receiving Kaletra (in TORO), tipranavir (RESIST) and TMC-114 (POWER), when T-20 is added to the regimen. (Source: Trimeris)

Among HIV-positive people who had taken eight or more previous antiretrovirals (the definition of 'highly treatment experienced' used for this study) only 10 percent were currently taking T-20, and less than 30 percent had ever discussed it with their doctor. But 76 percent of people not taking T-20 said they'd be likely to do so if their doctor recommended it, and most felt they could handle the complex routine of self-injecting.

Anecdotal and clinical evidence from people taking T-20 also shows that, despite the time-consuming and often painful process of daily injections, most people quickly adapt to the routine and are able to manage the self-administration process, and are surprisingly sanguine about the bruising, swelling and painful injection site reactions they have to endure, as long as the drug is having a clear clinical benefit.

Christine Katlama told the meeting that she works with patients to relieve their concerns about T-20, encouraging them to try the drug and agreeing at the outset that, if a clear clinical benefit isn't seen within a reasonable period of time, the T-20 therapy can be stopped. Using this cooperative approach enables patients to start T-20 with the clear understanding that their decision can be reviewed if the process is too hard for them and that they aren't necessarily signing up to use injectable therapies for the rest of their life.

"Putting the virus down at any point is clearly the best approach," she said, "but we need to remember that treatment needs to be continued for decades."

There is only limited clinical evidence available to date on stopping T-20 after the viral load has been reduced to undetectable levels, sparing the patient the injection process and downshifting to a less onerous maintenance regimen, then re-introducing the T-20 if the virus creeps up again. But anecdotally, this clearly is happening, and Katlama presented several case studies to support this approach.

Other developments also hold out the promise of reducing the barriers to T-20 treatment. Roche have successfully trialed a needle-free injection device (Bioject) with T-20. The Bioject device, not currently available in Australia, uses compressed air to deliver drugs through the skin, and is said to result in fewer painful injection site reactions. Roche have also trialed the use of narrower-gauge needles with T-20, and are currently comparing the Bioject with the two different needle gauges to see which approach works best.

Finally, the company which originally developed T-20, Trimeris, is working on several new compounds (notably TRI-999 and TRI-1144) with a view to reducing the number of injections required from twice a day to once or twice a week. Clinical trials on these compounds haven't started yet, but the idea of more widespread use of fusion inhibitors in the future certainly isn't far-fetched.

Nearly all HIV-positive people will experience 'dysphoria' – a negative disturbance in mood – at some stage. It can strike after their HIV diagnosis, as a result of some HIV-related conditions or because of the physical and mental strains that the virus places on us on a regular basis.

'Feeling blue' like this is normal and is usually just a transitory thing, but more serious depressive symptoms are estimated to have occurred in about 30 percent of the HIV-positive population at some stage compared with about 7 percent of the general population. However a recent Australian study suggests there's been an improvement in these figures (a decrease to around 14 percent) possibly related to health improvements related to HAART.

Treating depression can be one thing but being aware that you are depressed is often half the battle. "Depression is insidious; it sneaks up on you," Peter Hayes, a counsellor therapist of twenty years experience with the Melbourne Sexual Health Centre, told PL. "Being aware that you have the symptoms of depression can be half the battle in overcoming it." A lot of HIV-positive people go to their doctor with vague symptoms, aches and pains, problems with their appetite or sleep and they wait for their doctor to make the diagnosis, he explained. There can be many reasons for these symptoms and depression may be one of them.

With GPs having to cope with complex HIV treatment and pathology results, they may not have the time in a 15-minute consultation to ask how you're doing, so symptoms of depression can easily be missed. Added to this, some people feel embarrassed that they are not able to 'pick themselves up and get on with it' and are reluctant to admit this to their doctor.

"When patients are referred to me I make an extensive history which includes past and present coping strategies," said Hayes. "I use a simple questionnaire which is then scored to help confirm



Dealing with DEPRESSION

depression and indicate how we proceed from there. [See the sidebar on page 10 for a checklist of the main symptoms of depression.] Some people

can have a mixture of symptoms of anxiety and depression, which are often interrelated, and treatment can help reduce both."

WHAT CAUSED THE CRISIS?
"One of my aims in the psychotherapy sessions is to find out what precipitated the depression, what finally 'sunk

the boat' for that person. People often manage to keep their head above water, so to speak, but then an unexpected issue tips them over the edge to a point of not being able to manage or they become depressed. Things like a relationship break-up, the loss of a job or not being able to make ends meet financially are all major stressors," explained Hayes.

"Most people are able to regain their equilibrium after a period of supportive therapy and perhaps antidepressant medication. Others with more complex needs will benefit from the guidance of a psychiatrist. Encouragement to seek advice from perhaps a social worker, housing officer or peer support worker may be the key to recovery as they begin to appreciate that everything is not hopeless and a resolution can be found. To be able to talk the issues through with someone, without fear or judgment or dismissal with comments like, 'It's not really that bad' is an important step to obtaining help."

Isolation is a major issue for many of the clients Hayes sees. "The fear of disclosure of one's HIV status can often lead to people cutting themselves off from the community, whether it be the HIV-positive community, the gay community or even family and friends who might have been good supports. This fear can be compounded when a person experiences the side effects of HIV treatments, such as lipodystrophy (particularly the facial changes) and feels they can't disguise their status any longer. Or they come to see me because their health has deteriorated and suddenly they have to start taking treatments—this can be very confronting. They have put the HIV issue away in the 'too hard basket' until finally they have to face up to the possibility that they might get sick."

Commencing HIV medications can be especially difficult, Hayes believes, as it is often the first time there is a daily reminder of being HIV-positive. For many people, the real hurdle is actually engaging with their HIV-positive peers – to be able to walk in the door of a Positive Living Centre and feel comfortable about receiving services there. Speaking to other positive people about how (GO TO PAGE 10)

Robert's STORY

Robert is a health professional who has been HIV-positive since 1985 and has experienced several AIDS-defining illnesses during the 1990s. Robert's awareness of his mental health is acute, as he has just experienced a serious bout of depression involving visits to a counsellor and a psychiatrist who prescribed antidepressant drugs.

"It has been a rough period in my life but the psychotherapy helped me to get an understanding of the way my mind works, and the role that my past history has played in my thoughts. Along with the antidepressants which have really picked up my mood, finding a therapist who I could trust has helped bring me through a dark time."

As Robert found in his psychotherapy, periods of change or upheaval can bring depression for some people and this has been Robert's experience. Very early on in his life he remembers going through depression when he thought his conservative father wouldn't accept him being gay. Later in life when he became HIV-positive, it was revealing the news to his then boyfriend which set it off again – the boyfriend's rejection of his status hurt him deeply as did the general stigmatising of positive people by society then – it was only finding a very supportive gay GP that got him through his great feelings of loneliness.

As a health professional, Robert has only been too aware of the stigmatising of patients with mental illness by other professionals and he was cautious about letting anyone know if he had been through any depression. "If you're hiding personal details about previous mental health episodes and your HIV status on top

of that, you can get to a lonely place. Finding a few real friends or soul mates who won't judge you or tell others can really make the difference. I found that in a partner who was also HIV-positive and for a number of years we planned our lives together. Things were going well but when we split a year or so ago my dreams about where my life was going seemed to fall apart.

"On top of that of course I have been dealing with the ageing process. There is no doubt that HIV and its treatments cause people to age faster – when I look in the mirror and compare myself with my brothers and sisters who are similar ages, I look much older. The lipodystrophy from the drugs has not been kind to me and the thought of losing one's youth and attractiveness – of not being able to pick up at the bars anymore – has caused me some despair. When recently I became run down from doing too many hours at my work, I had a serious mental collapse. I was reluctant to find help but when I started to think suicidal thoughts and to actually think about carrying it out, I knew I had to see a mental health professional.

"Fortunately I found someone I got on well with and I've made some significant changes to my life. I've decided to simplify everything I do down to the things that really give me pleasure – I don't have to do things for others all the time like I used to. I've learnt to prioritise the things I want to achieve every day so I don't get overwhelmed or upset if I don't do everything. I've nurtured a couple of special relationships and made sure I haven't remained isolated from others like I was."

Robert also found that antidepressants helped in his case. "After three weeks on the mirtazapine I started to feel so much better. I could concentrate, observe things around me more fully and even listen more closely to my friends. My psychiatrist selected it partly because it doesn't interfere with sexual performance and it has worked well for me."

ACUPUNCTURE

Acupuncture, one of the major branches of Traditional Chinese Medicine (TCM), has been used by HIV-positive people for many years. Acupuncture can help relieve the symptoms of HIV infection or treatment side effects, and can support general health.

Most people in Australia who undergo acupuncture do so in combination with western medical treatments and/or other complementary therapies, but a small African study, conducted in 1995-96, looked at acupuncture as a treatment for HIV-related symptoms. The 36 participants in this trial had few traditional or western medical services available, so their treatment options were severely restricted. Only very limited pathology tests could be done and even measurements of CD4s or viral load weren't possible.

Many people in the trial also had chronic parasite infections, malnutrition, repeated bouts of malaria and other long-term, debilitating conditions.

Of the 36 participants, eight were generally well but had some symptoms associated with HIV, 25 were quite unwell and had multiple symptoms and three were seriously ill. They all had a combination of AIDS-related symptoms including fevers, severe weight loss, fatigue, night sweats, numbness and pain in the arms and legs and prolonged, swollen lymph glands.

Virtually everyone also had low red and white blood cell counts and elevated erythrocyte sedimentation rates (ESR), an indication of generalised inflammation in the body.

The patients received standard treatments based on which Chinese Medicine

syndrome they presented with. Notably, acupuncture treatments were not individualised for each person, which is the preferred approach taken by acupuncturists.

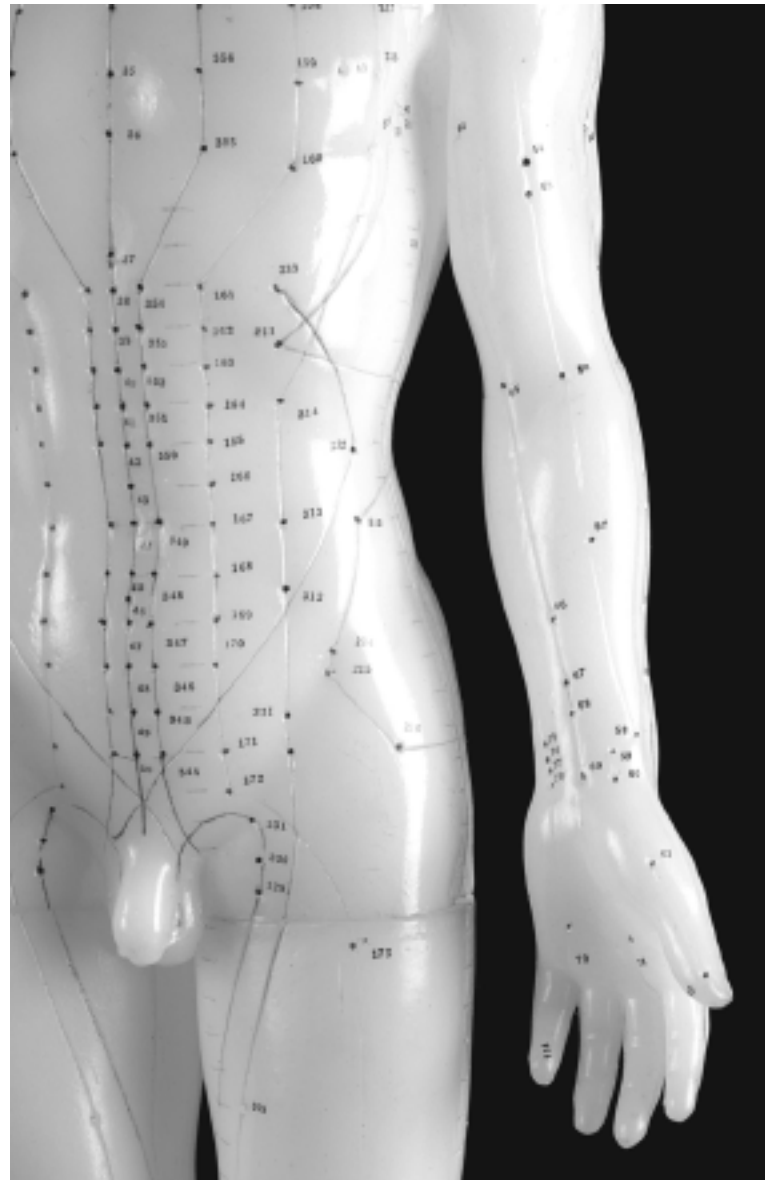
Patients generally received one 15-30 minute treatment per day. People who were admitted to hospital had between three and 32 days' treatment and outpatients had between ten and 89 days' treatment.

After treatment, there was resolution of limb pain and numbness in 22 of 30 cases, of diarrhoea in 17 of 26 cases, of fever in 17 of 36 cases, of night sweats in 12 of 33 cases and of cough in 5 of 18 cases. Moderate improvements were seen in anaemia, white blood cell count and ESR.

While this study was very small and limited by the pathology tests available at the time, these results are very encouraging. Significant improvements in symptoms were achieved despite the background anaemia, immune suppression, inflammation and malnutrition. Presumably, results would have been better if acupuncture treatments had been specifically prescribed for each person instead of treatments being based on people's general presentations, or if other treatments had been available to use in combination with the acupuncture.

More recently, acupuncturists from the AIDS Care Project in Boston (the largest HIV acupuncture clinic in the United States) presented to the Rio AIDS conference last year the results of their work using acupuncture to manage digestive side-effects of anti-HIV drugs.

Nearly half the group of 50 HIV-positive persons had an AIDS diagnosis and all had at least two digestive problems that were judged to be due to



their anti-HIV medications. Nearly 80 percent had flatulence, 50 percent had cramps, around 50 percent had appetite loss, more than 40 percent had bloating and 10 percent had lost weight.

The participants then received three weeks of acupuncture followed by another three weeks using four acupuncture points not noted for affecting digestive conditions.

After the first three weeks

there was a clear improvement, with just 60 percent of people having two or more digestive symptoms. Acupuncture treatment was also associated with improved medication compliance.

Anxiety and depression are common among people with HIV in Australia and both these conditions can also respond well to acupuncture. A placebo-controlled German trial among 56 people with either minor depression or

generalized anxiety disorders found that "acupuncture leads to a significant clinical improvement as well as to a remarkable reduction in anxiety symptoms in patients with minor depression or with generalized anxiety disorders".

In this trial, 86 percent of people with anxiety significantly improved but more than five sessions of acupuncture were generally needed before positive changes began.

Acupuncture can treat a wide variety of conditions and symptoms. However, Alan Bensoussan, Head of the Research Unit for Complementary Medicine at the University of Western Sydney, cautions people about receiving acupuncture from medical doctors unless they have the same standards of training as non-medical acupuncturists.

"When we last surveyed medical practitioners in this area," Bensoussan says, "approximately 72 percent of them stated they had trained for less than two weeks in Chinese medicine or actually failed to answer that question at all." Non-medical acupuncturists typically train for three to four years before becoming qualified.

Check your acupuncturist is registered with the Australian Acupuncture and Chinese Medicine Association or other professional body.

Jim Arachne is the Complementary Therapy Treatment Officer for the Victorian AIDS Council. A referenced version of this article is available on our website (www.napwa.org.au).

Complementary therapies information published in *Positive Living* is intended for symptomatic relief only.

Truvada approved

A once-daily combination treatment for HIV, Truvada was listed on the Pharmaceutical Benefits Scheme effective 1 February. Combining a fixed dose of tenofovir and emtricitabine (FTC) in the same tablet, Truvada offers a reduced pill burden for those people for whom it is suitable. Truvada should be taken in combination with either a protease inhibitor or non-nucleoside.

Reverset abandoned

The development of the experimental nucleoside analogue DFC (dexelvucitabine, formerly called D-D4FC or Reverset), has been discontinued due to concerns that the drug may cause damage to the pancreas, according to an announcement from Incyte Corporation, the company that had been developing the drug.



Darunavir on SAS

A Special Access Scheme (SAS) has begun for darunavir (TMC-114), a protease inhibitor being developed by Janssen-Cilag. People with multiple exposure to other PIs who are having trouble constructing a viable treatment combination may now be eligible to access darunavir, which is still in clinical trials. While not yet licensed for use in Australia or overseas, data from clinical trials indicate that it could be an important emerging antiviral option, especially for people with high-level resistance to other PIs.

As with all SAS programs, eligibility is limited to people with

multiple treatments failure or who, for reasons of tolerance, toxicity or drug interactions, cannot construct an appropriate treatment combination with currently available PIs. You need to be referred into the program by your treating doctor.

Hep C treatment expands

The availability of treatment for hepatitis C virus (HCV) infection in Australia has been simplified, in the hope that more people with the virus will consider treatment. People with HCV infection will no longer have to undergo a liver biopsy before being able to

access pegylated interferon/ribavirin treatment, a move that has been welcomed by experts in the field, who had argued that the biopsy requirement had deterred many people from accessing the treatment.

HAART failure rate falls by half

The risk of failing your first antiretroviral treatment regimen more than halved between 1996 and 2002, according to an international study published in the March 13 edition of *Archives of Internal Medicine*. Researchers examined medical records of 3825 people who had started treatment during the seven-year period and noted that, due to more effective treatment strategies employed in recent years, the risk of treatment failure in the first year of treatment had fallen by between 48 and 79 percent. Among people who start

and stay on treatment, "initial failure risk is now very low and may have fallen as low as is realistically possible," the researchers concluded.

—Aidsmap

Buprenorphine interaction

A drug used as an opiate substitute for people dependent on heroin, buprenorphine appears to interact with atazanavir-based antiretroviral combinations, where the atazanavir (Reyataz) is boosted with low-dose ritonavir. In a report published in the March 21 edition of *AIDS*, doctors describe three cases of interaction between the drugs, leading to increased levels of buprenorphine in the bloodstream. The doctors recommend that the combination be avoided or used with caution, possibly requiring adjustment to the buprenorphine dose.

The 13th annual Conference on Retroviruses and Opportunistic Infections (CROI) took place in Denver, Colorado, from February 5-8. The major breaking news from this conference was the premature cancellation of the SMART study, which we've covered in detail elsewhere in this issue. But as usual, this important conference produced a great deal more than a single story.

NEW ANTIRETROVIRALS

With more than 20 different antiviral medications approved in Australia, it's somewhat surprising that we still need new drugs to treat HIV. But, a decade after the turning point that was the introduction of HAART, factors such as treatment side effects and viral resistance continue to challenge HIV treatment, and the need for newer, better drugs is very real.

Frustratingly, the timeframe for development of new treatments is very long, and the incentives for drug companies to invest the millions of dollars it takes to bring a drug through clinical trials and to market are limited. But the 'drug pipeline' is far from empty and there are several compounds currently in development which show great promise.

Researchers from Tibotec Pharmaceuticals presented new data on etravirine, the non-nucleoside formerly known as TMC-125. This drug has been designed to overcome the cross-resistance which affects existing non-nucleosides, and which prevents people who have failed one non-nuke from using other drugs in the class.

Results from a 199-person study presented late last year demonstrated etravirine's effectiveness in heavily pre-treated individuals, producing viral load reductions of at least 1.04 logs after 24 weeks when used in combination with other drugs. The data presented in Denver looked at the resistance profiles of participants on that study, in order to assess effectiveness in people with pre-existing non-nucleoside resistance.

Almost all patients in this study had previously used at least one other non-nuke and had at least partial resistance to this class of drugs, with resistance tests showing a median 40-fold resistance to efavirenz and 60-fold to nevirapine. In comparison, there was a median resistance of just 1.7-fold to etravirine, indicating good levels of effectiveness even in people with non-nucleoside resistance.

Tibotec also presented further impressive data on darunavir, previously called TMC-114, which is currently in clinical trials internationally, including in Australia.

An analysis of resistance profiles of participants in the POWER studies, which involved a total of about 600 people, was undertaken to determine the extent of cross-resistance with other PIs. The analysis identified a number of viral mutations which were associated with decreased efficacy of darunavir, suggesting that some level of cross-resistance with existing

PIs does occur, however they found that, compared with the other drugs studied, darunavir maintains a significant clinical benefit. Tibotec has lodged applications with regulatory bodies in the US and Europe for approval of darunavir, and in Australia a Special Access Scheme is now underway.

INTEGRASE INHIBITORS: THE NEXT BIG THING?

Integrase inhibitors are designed to target the stage in the HIV life cycle where the virus integrates its own genetic material into human DNA, 'reprogramming' immune system cells to produce more virus.

One of the most keenly-watched drugs in development is the Merck integrase inhibitor MK-0518. Researchers presented preliminary data from a study involving 167 highly treatment-experienced people, all with viral loads over 5000 and documented triple-class resistance to existing treatments. Participants were individually assigned optimised

new drug appears to have a manageable side effect profile, with no real difference in side effects noted between the active treatment and placebo arms. The full results from this study will be presented at a later date.

Another integrase inhibitor, GS-9137, being developed by Gilead Sciences, was the subject of another study discussed at CROI. The small study involved 40 participants, half of whom were treatment-experienced and half treatment-naïve, who were randomly assigned to receive one of five different doses of GS-9137, or a placebo, for ten days, with no other anti-HIV drugs. Viral load reductions of between 0.89 and 2.03 logs were recorded, compared with a 0.26 log drop in the placebo group. Further studies are planned to follow up on these encouraging results.

MONOTHERAPY: THE NEW-OLD THING

The use of a single anti-HIV drug as 'maintenance' treatment in people who have

person spends on treatment. While the incidence of heart attack remains low, the results of this study have caused considerable concern about the likely effects of long-term treatment.

The results presented in Denver show that 345 study participants have experienced at least one heart attack during the study. Of these, 83 percent had taken protease inhibitors, for a median period of three years. After adjusting for other risk factors such as tobacco smoking, the researchers have concluded that the risk of heart attack doubles for every five years on protease inhibitors. In contrast, for non-nucleosides, the risk of heart attack increased by an average of 5 percent for each year on treatment, which the researchers said was not 'statistically significant' – in other words, the increase was so small it could have arisen by chance.

The presenters speculated that increases in blood fat (cholesterol and triglyceride) levels associated with protease inhibitor therapy may be

engage in 'mucosally traumatic practices' such as fisting or use of sex toys, group sex and use of party drugs such as crystal meth. A Dutch study had similar findings, with 50 percent of participants reporting receptive fisting, and 65 percent having also been diagnosed with sexually-transmissible infections including LGV or syphilis.

A French study suggested that not only gay men, but HIV-positive heterosexual women, are at risk of acquiring hep C via sex. The poster presentation focused on three men and two women from a 605-member cohort study who developed hep C with no other risk factors identified apart from unprotected sex.

PrEP

Pre-exposure prophylaxis (PrEP) is the idea that giving HIV drugs to uninfected people might protect them from HIV infection. It's a subject that has caused a great deal of controversy over recent years, with activists successfully lobbying for the cancellation of several international clinical trials. Yet it remains an area which holds much promise for HIV prevention.

The conference heard about a successful animal study which used a combination of tenofovir and FTC as PrEP. In the study, 12 rhesus macaque monkeys were given daily injections of tenofovir and FTC, after which the researchers 'challenged' the monkeys with weekly rectal inoculations of SHIV, a virus very similar to HIV which is capable of infecting these animals. A 'control group' of a further six monkeys were also inoculated, but did not receive any drugs.

Four of the six monkeys in the control group became SHIV-positive within four weeks, and a fifth had seroconverted by the end of the 14-week study. In contrast, none of the monkeys who were given the study drugs became infected after 14 weekly inoculations with SHIV. The researchers then repeated the experiment using FTC alone. Two of the six monkeys in this part of the study became SHIV-infected within ten weeks, compared to all monkeys who were not given any prophylaxis.

The positive results for tenofovir plus FTC were significantly superior to those seen in earlier trials which used tenofovir alone, suggesting as in HIV treatment, combinations of drugs give far better results than single agents.

The choice of rectal inoculation was chosen in order to mimic, as closely as possible, human sexual transmission of HIV, in order to determine whether antiretroviral medications could have a role in HIV prevention among high-risk groups, and this trial has understandably generated a great deal of interest. Concerned at reports of gay men self-medicating with tenofovir as a risk reduction strategy, the researchers stressed that this study is a 'proof-of-concept' only and that further trials in humans will be needed before we know whether PrEP works.

—Reports from Aidsmap.com, Medscape.com and NATAP.org formed the basis of this article. A referenced version can be found on our website (www.napwa.org.au).



ROCKY MOUNTAIN CROI

background treatment regimens based on resistance test results, and were randomly assigned to receive one of three doses of MK-0518 or a placebo.

After 16 weeks, at least 70 percent of participants receiving MK-0518 had viral loads below 400 copies/ml, compared with 24 percent of those in the placebo arm. Viral load reductions of at least 2 logs were seen in most patients after two weeks, compared with a 0.8 log reduction in the placebo group.

Describing the results as "phenomenal," Associate Professor Paul Sax of Harvard Medical School told Medscape.com: "It was a only a 16-week interim result, so we don't know about the durability, and we can't say much about safety, because there weren't that many patients in the study. Nonetheless . . . these are really exciting responses for an investigational agent."

The results are especially impressive considering the heavily pre-treated nature of the participants. Resistance tests conducted at the outset of the trial showed that, in about half the participants, resistance had developed to every current anti-HIV drug, and 98 percent were resistant to all protease inhibitors.

Integrase inhibitors have generated excitement before, but have been plagued by toxicity problems. So far, this

already achieved undetectable viral load on combination therapy has been the subject of several recent studies, notably the 'OK' study into Kaletra monotherapy which we reported on following last year's IAS conference in Rio de Janeiro.

Preliminary data presented at CROI from a small study suggest that atazanavir/ritonavir also has a future in this 'treatment simplification' approach. The 36 participants in this US-based study had maintained continuous undetectable virus for at least 48 weeks. Participants were first switched to an atazanavir/ritonavir-based combination for six weeks, then the nucleoside drugs were stopped. Of the 34 participants who stayed in the trial, three (9 percent) experienced viral rebound, while the remainder stayed undetectable for up to a year.

CARDIOVASCULAR RISK

An analysis of a large international study has concluded that the increased risk of heart attack in people taking antiretrovirals is related to protease inhibitors and not to non-nucleosides.

The D:A:D study is a very large international project involving more than 23,000 people, which has previously reported an increased risk of heart attacks of about 17 percent for every year a positive

responsible for the correlation with heart attacks, but even after adjusting for blood fat levels, the D:A:D study data still shows an independent link between proteases and heart disease, suggesting that another mechanism is partly responsible.

While these figures may understandably alarm people taking protease inhibitors, it's important to take them in context. While an increase in risk of 17 percent seems huge, the actual risk of having a heart attack remains quite low, at less than 0.4 percent per year. Other risk factors – smoking, poor diet, lack of exercise, high blood pressure and increasing age – are much more likely to result in the development of cardiovascular illness, and these should be eliminated or managed wherever possible.

SEXUAL TRANSMISSION OF HEP C

Evidence of sexual transmission of hepatitis C among HIV-positive people continues to accumulate. Three presentations at CROI focused on this emerging issue.

A British study looked at the risk factors for sexual transmission among 111 HIV-positive gay men diagnosed with sexually-acquired hep C. The men in this study had higher-than average numbers of sexual partners, and were more likely to practice unprotected receptive anal intercourse, to

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Dealing with DEPRESSION

FROM PAGE 7

they managed is, says Hayes,
"universally empowering."

ROLE OF ANTIDEPRESSANTS

People with serious depression
will generally need to see a
psychiatrist or a psychologist to
help them to deal with feelings
of hopelessness or despair,
sometimes resulting in thoughts
of suicide which stop them
from functioning normally in
their everyday lives.

Dr Steve Ellen is a senior
psychiatrist with the Alfred
Hospital in Melbourne with
responsibility for looking after
patients with HIV. "When
depression gets really severe the
balance of chemicals in the
brain changes and medications
are usually the only thing that
helps," he said. "Most people
still require counselling or
psychological therapies to help
deal with the underlying causes.
Medications alone work in about
65 percent of cases, but combined
with psychological therapies, it
goes up to about 80 percent."

There are several issues you
and your doctor should be
aware of if considering
antidepressant medication. For
people with HIV who are on
HAART drugs, it's always
important to be aware of the
potential for any interaction
between medications: double-
check with your pharmacist if
you are worried about these.
Some of the latest anti-
depressants interfere less with
sexual functioning, something
some people are particularly
concerned about. And for
people with a history of
depression it might be worth
avoiding the antiretroviral
efavirenz (Stocrin) because it
can worsen depression. If it's
the best option for control of
the virus, doctors need to watch
for signs of depression and to
treat it if it occurs.

"People with mild depression
(the most common) don't
necessarily do so well with anti-
depressants and if they are
prepared to undergo supportive
psychotherapy or be referred to
a psychologist, I recommend it,"
said Ellen. Cognitive Behavioural
Therapy (CBT) is a popular
psychotherapy for people with
depression, which he says helps
most people who try it.

COGNITIVE BEHAVIOURAL THERAPY

Michelle Earle, a clinical
psychologist at the Alfred
Hospital, explained what is
involved with CBT. "It is a
structured, focused approach to
reduce a patient's symptoms of
depression. Patients commit to
at least six sessions where the
psychologist helps them look at
their thinking patterns, feeling
states and behaviour in a
scientific way. This might
involve a patient recording
their thinking processes for a
week – when is their mood low,
what brings on thoughts of
hopelessness or despair, what
are the consequences for them
when they feel low? Then the
psychologist will examine these
with patients to identify the
patterns associated with their
depression or anxiety and help
to challenge these patterns."

For example, Earle explained
that if an individual believed

that they were alone with their
illness and this underpinned
their depression, they might
discuss the evidence for that
and whether there was any
evidence contrary which might
offer hope. "There are very few
people for whom things are all
good or not good at all – a goal
is to help the patient achieve
some perspective and be able to
master the patterns which lead
to them being distressed."

Alternatively, the psychologist
might ask patients to monitor
their feelings when undertaking
certain activities – what things

approaches can also be of
benefit to people coping with a
chronic illness, for instance."
These approaches look at
people's subjective experience,
how they have adjusted to
major life changes such as an
HIV-positive diagnosis, or the
grief and loss associated with
illness and what meaning they
can make of these changes.

"We have learned that it's not
what actually happens to you in
your life that best predicts how
you fare; it's how you make
sense of what happens to you
that's important. This approach

although this is improving.
Private psychiatrists are hard to
access and are expensive
(although they are covered by
Medicare). Psychologists are
even more expensive and, until
recently, didn't qualify for a
Medicare rebate.

Fortunately there are HIV
psychiatric services attached to
major hospitals in a number of
states. It's possible to access a
psychiatrist or psychologist
through these for no fee –
something which isn't available
for some other illnesses. Some
community agencies, including

Are you depressed?

Based on the criteria developed by the American Psychiatric Association, there's a possibility you may have major depression if, for at least two weeks, you've had . . .

... **AT LEAST ONE OF THESE SYMPTOMS** ...

- 1 Feeling depressed (down, sad, blue, hopeless) most of the day and almost every day.
- 2 Loss of interest in things that are usually interesting or pleasurable. (This can be partial or complete).

... **AND AT LEAST FOUR OF THESE SYMPTOMS** ...

- 1 Loss of appetite and/or weight loss without diet or medical cause or increase in appetite and/or undesired weight gain.
- 2 Insomnia (waking up early and not being able to fall back to sleep; difficulty falling asleep) or sleeping too much.
- 3 Being slowed down physically or mentally. You or other people notice that it takes you longer than usual to accomplish activities.
- 4 Being agitated (restless, can't sit still, pacing, wringing hands, rubbing head).
- 5 Fatigue; loss of energy.
- 6 Feeling excessively guilty or worthless.
- 7 Difficulty in concentrating. Feeling that your thinking is slowed down. Increased difficulty in making small decisions.
- 8 Persistent thoughts about death and/or suicide.

If you are depressed

The most important things you can do is to talk to someone about it – your close friends, your family, your GP, your counsellor. Most people find it very difficult dealing with depression on their own and they shouldn't have to. There are counselling and psychotherapy services available in each capital city and in most rural areas. See the Broadsheet on the back page of Positive Living for services in your state.

- It is important to raise any concerns about mood changes with your GP. Depression should be treated as a medical problem like any other and sometimes mood changes can be a symptom of other medical conditions.
- Try to maintain or increase social activities. Talk to friends and family. Many people withdraw from others when feeling down which only makes the depression worse.
- Exercise has been proven to help people with depression. A regular gym routine is good but simply walking around the block can help a lot too.
- Try to maintain your normal sleep-wake cycle, eat well and limit late nights.
- Engage in pleasurable and distracting activities like reading, meditation, gardening, listening to music.
- Limit or abstain from alcohol or recreational drugs. Alcohol is a depressant and while it might be commonly used as a coping mechanism, is likely to cause long-term problems if you start to depend upon it. Recreational drugs are known to cause depression several days after use, and people on antidepressants should not take ecstasy or amphetamines at all due to the risk serious drug interactions. Drugs like marijuana and alcohol also limit the effectiveness of treatments and so prolong the depression.

Thanks to Tania Gibbie from the Alfred Hospital, Melbourne for help with this list.

bring them the most pleasure in
their everyday lives and can they
increase the time they spend
doing these things to counter
their negative feelings? Finally,
CBT also looks at behaviour: is
the person spending too much
time in bed, not getting out into
the sunlight or not doing exercise
each day (something which is
known to aid stress management
and mood)? The idea is to
provide some tools to overcome
depression and stop it recurring.

There's usually no single
intervention that works for
everybody, said Earle. "There
are lots of other approaches
which psychologists use and
often therapists will not just
restrict themselves to one
approach. The insight-oriented

is about helping people to make
adjustments by looking at the
'big picture' of their lives."

INADEQUATE MENTAL HEALTH SERVICES

Steve Ellen acknowledges that
the availability of mental health
services in our country is
generally poor. "Our public
systems are under funded and
don't tend to do a great job with
depression as they are more
focused on schizophrenia and
drug-related problems," he said.
"Depression is most commonly
treated in general practice
settings and by private
psychiatrists and psychologists."
But GPs are often overrun and
don't have the time they need
to deal with depression,

AIDS Councils, also provide
excellent counselling services.
About 10 percent of Steve's
patients require in-hospital
care, he said. Specialist
inpatient and outpatient HIV
psychiatry services attached to
major treating HIV hospitals,
clinics and GP practices would
be desirable but, he said, "I
think that will remain on my
wish list for some time!"

■ The Alfred Hospital in
Melbourne is planning an HIV
Psychiatry Primary Mental Health
Service to be located in the
community to support GPs and
clinics. It is to commence in the
second half of 2006. A referenced
version of this article is available on
our website (www.napwa.org.au).

POWER-PACKED PROTEASES



Successful anti-HIV therapy typically requires combining at least three different drugs from at least two different drug classes. For most people, that means taking either a protease inhibitor or a non-nucleoside in combination with two nucleoside drugs.

The arrival of protease inhibitors in the mid-1990s – the ‘protease moment’, as it’s known – was a turning point in HIV medicine. For the first time, it became possible to combine different drugs which targeted the replication of the virus at different stages in its life cycle, something which quickly became known as ‘cocktail’ or ‘combination’ therapy, and which today we refer to as **HAART** – Highly Active Antiretroviral Therapy.

To say HAART has changed the treatments outlook for people living with HIV (at least those of us who live in a part of the world where treatments are available) is something of an under-statement. But while protease inhibitors are very effective in combating HIV, they have some **side effects** and have been linked to **long-term toxicities**. And, as with other drugs, **resistance** and **cross-resistance** can mean that not all protease inhibitors will work effectively in a particular individual.

To choose the right PI for the job, you and your doctor need to take account of the differences between the various drugs on offer and your individual situation.

HOW THEY WORK

PIs work by chemically inhibiting (blocking the action of) an enzyme called **protease** which HIV uses to break up large proteins into smaller pieces as part of its reproductive cycle. The protease enzyme is critical to a stage in the HIV cycle called **cleavage** where the protein building blocks of new viral particles are prepared.

By interfering with this stage of the process, PIs cause the

In the last issue, we took a look at the nucleoside analogue ‘backbone’ of anti-HIV treatment, but a strong backbone is only part of the story – it needs something to hold up. This *Backgrounder* looks at the protease inhibitor class of drugs.

infected cell to produce defective copies of HIV which are unable to infect other cells. They work inside infected cells, disabling the virus’s reproductive process to prevent other cells from infection.

Like all anti-HIV drugs, PIs are only partially effective by themselves; to fully control the virus, they need to be used in combination with other drugs which attack HIV at a different stage in its cycle.

THE PROTEASE FIELD

At present, there are seven different PIs available on the PBS in Australia – indinavir (Crixivan), nelfinavir (Viracept), saquinavir (Invirase), ritonavir (Norvir), lopinavir (Kaletra), fosamprenavir (Telzir) and atazanavir (Reyataz). In addition, there are two more which are available through clinical trials or via Special Access Programs – tipranavir

(Aptivus) and darunavir (also called TMC-114). They all have their pluses and minuses, making choosing which PI is right for you somewhat complex.

The ideal for any treatment regimen is that it should be **safe** to take with as few side effects as possible, **effective** in suppressing HIV replication, and **convenient** for you to take – not requiring too many pills or too-frequent dosing.

SAFETY AND SIDE EFFECTS

While all protease inhibitors licensed in Australia are safe to take, they do have particular toxicity problems. These can usually be managed, but it’s important to know about them.

The table below gives a quick summary of the common side effects associated with each of the PIs. If you’re considering starting treatment, you shouldn’t be disheartened by the large number of side effects listed;

the majority of side effects (like nausea, diarrhoea, headache, and rash) tend to occur in the first month or two after starting treatment, after which they tend to subside. Less-common side effects such as liver problems should be monitored for by your doctor while you’re taking the drug, and some can be avoided (kidney stones, a possible side effect of indinavir, can be prevented by maintaining an adequate fluid intake, for example).

The best approach is usually to discuss potential side effects with your doctor before starting a new drug, so you know what to expect and you know what the options are for dealing with them if they arise.

Nearly all protease inhibitors can cause rises in **cholesterol** and **triglycerides**. Increased levels of these blood fats are a known risk factor for the development of heart and

artery disease, and are thought to also play a part in the development of **lipodystrophy**, the changes in body fat distribution which affect some people who take anti-HIV treatments over long periods. **Atazanavir** has a much less pronounced effect on blood fat levels than other PIs.

EFFECTIVENESS

Clinical studies have shown that, taken in combination with other anti-HIV drugs, PIs have an excellent track record in suppressing HIV viral load.

CONVENIENCE

Most PI-based regimens need to be taken two or three times a day, and many have specific requirements about whether they should be taken with food or on an empty stomach. If you’re considering a PI-based regimen, you and your doctor should consider the dosing requirements of all the drugs in the combination and try to avoid combining drugs with different dietary requirements as this can increase the complexity of your regimen.

The daily **pill burden** is the total number of pills which must be taken per day, in addition to the other drugs in the combination. If you find it hard to take large numbers of pills, discuss with your doctor the total pill burden for your proposed combination and ask if there are alternative options involving fewer pills.

BOOSTED PROTEASES

While ritonavir has fallen out of favour as a PI in itself (due to side effects and high pill burden), many PIs are now taken with a small dose of ritonavir to ‘boost’ blood levels of the PI. Ritonavir has an effect in the liver which slows down the removal of some drugs from the bloodstream, so using it in this way has enabled fewer doses and lower pill burdens for other PIs. Boosted regimens usually require taking one or two 100mg capsules of ritonavir along with your PI. Kaletra capsules have the ritonavir already added.

—Paul Kidd

	Ritonavir boosted?	Doses per day	Daily pill burden (incl. ritonavir boosting)	Nausea, diarrhoea etc	Headache, dizziness etc	Rash/skin problems	Liver problems	Increased blood fats	Lipodystrophy	Other potential side effects	Other points to note
PROTEASE INHIBITORS APPROVED AND AVAILABLE ON THE PBS											
atazanavir (Reyataz)	○/●	1	2–3	●	●	●	●	○	?		Take with food
fosamprenavir (Telzir)	●	1-2	2–3	●	●	●	●	●	●	Fatigue, tingling around mouth	
indinavir (Crixivan)	○	3	6	●	●	●	●	●	●	Kidney stones, insomnia, muscle pain	Take on an empty stomach, drink plenty of water
lopinavir (Kaletra)	●	2	6	●	●	●	●	●	●		Take with food
nelfinavir (Viracept)	○	3	9	●	●	●	●	●	●		Take with food
ritonavir (Norvir)	○	2	12	●	●	●	●	●	●	Weakness, numbness around mouth, muscle pain	Take with food
saquinavir (Invirase)	●	2	6	●	●	●	●	●	●	Muscle pain, tiredness, fever	Take on an empty stomach
EXPERIMENTAL PROTEASE INHIBITORS AVAILABLE THROUGH RESTRICTED SPECIAL ACCESS SCHEMES											
darunavir (TMC-114)	●	1		●	●	●	●	●	?		Active against PI-resistant virus
tipranavir (Aptivus)	●	2	8	●	●	●	●	●	●		Active against PI-resistant virus. Take with food. Drug interactions include abacavir, AZT, ddI and other PIs.

Note: not all side effects will occur in all people taking a particular drug, and other side effects than those listed are possible. Dosages shown are usual adult dosages; in some cases your doctor will prescribe a different dose.

PLWHA Broadsheet

NATIONAL

- **National Association of People Living With HIV/AIDS (NAPWA)** ☎ 02 9557 8825 or 1800 259 666 ■ www.napwa.org.au
- **Australian Federation of AIDS Organisations (AFAO)** ☎ 02 9557 9399 ■ www.afa.org.au
- **Australian Hepatitis Council** ☎ 02 6232 4257 ■ www.hepatitisaustralia.com

NEW SOUTH WALES

- Area code (02)
- **PLWH/A (NSW)** (M) (V) Advocacy, services, publications, speakers' bureau, events. Suite 5, 94 Oxford St Darlinghurst. ☎ 9361 6011 or 1800 245 677 ■ www.plwha.org.au
 - **ACON** (M) (V) HIV prevention, health promotion, advocacy, care and support services for PLWHAs, gay men, lesbians, ATSI, IDU, sex workers. 9 Commonwealth St Surry Hills ☎ 9206 2000 or 1800 063 060 ■ www.acon.org.au
 - Treatments Info ☎ 1800 816 518
 - Counselling ☎ 1800 647 750
 - Positive Women ☎ 9206 2015
 - Western Sydney ☎ 9204 2400
 - Hunter (Newcastle) ☎ 4927 6808
 - Illawarra (Wollongong) ☎ 4226 1163
 - Northern Rivers (Lismore) ☎ 6622 1555 or 1800 633 637
 - Mid-North Coast (Port Macquarie) ☎ 6584 0943
 - **Community Support Network (CSN) (V) Transport + practical home help for PLWHAs.** Sydney ☎ 9206 2031.
 - West Syd/Blue Mtns ☎ 4734 3887.
 - Hunter/Mid Nth Coast ☎ 4927 6808.
 - Illawarra ☎ 4226 1163
 - CSN volunteers (training provided) ☎ 9206 2038
 - **Ankali** (V) Volunteers provide one-to-one emotional support for PLWHAs, their partners, family and friends. Referrals, counselling, professional support. ☎ 9332 9742
 - **Positive Living Centre Sydney (PLC)** (M) (V) Regular programs, social events, meals, service info, referrals, care coordination, complementary therapies, internet access, re-skilling, art classes. Tue–Sat 10–4, 703 Bourke St Surry Hills ☎ 9699 8756
 - **Luncheon Club** (V) Free lunch (Mon 12–4) for people living with and affected by HIV and Luncheon Club Larder (Mon/Wed 12–4) Free food + essentials for PLWHAs struggling on the DSP. 77 Kellick St Waterloo ☎ 8399 3220 or 0416 040 074 ■ luncheonclub.org.au
 - **Bobby Goldsmith Foundation (BGF)** (V) Financial assistance with essential bills, no interest loans, financial counselling, support with study and employment and supported accommodation ☎ 9283 8666 or 1800 651 011 ■ www.bgf.org.au
 - **Positive Futures Project** Support for people considering returning to work or study, volunteering and alternatives to paid work. ☎ 9283 8666 or 1800 651 011 ■ www.pfp.org.au
 - **HIV/AIDS Legal Centre** Free HIV-related legal services. Wills, superannuation, immigration, discrimination ☎ 9206 2060 or 1800 063 060 ■ www.halc.org.au
 - **Multicultural HIV/AIDS + Hepatitis C Service** Bilingual/bicultural support, advocacy for people from non-English-speaking backgrounds. ☎ 9515 5030 or 1800 108 098 ■ www.multiculturalhivhepc.net
 - **Positive Central** Counselling, dietetics, occupational therapy, physiotherapy. Individual and group sessions, home visits. ☎ 9395 0444
 - **Switched On Living** Monthly information sessions about healthy lifestyle for PLWHAs, friends, family, carers. ☎ 8382 2072
 - **PozHet (HIV Positive Heterosexuals)** (M)

- Freecall counselling for positive straight men, women & partners. Women's officer avail. Annual Calendar of fun & support activities. ☎ 1800 812 404 ■ www.pozhet.org.au
- **The Sanctuary** (V) Complementary therapies, massage, shiatsu, yoga ☎ 9515 6142 ☺
 - **North AIDS** Supported accommodation for PLWHA and carers. Info and day centre at Myrtle Place (M–F 9.30–4.30 or by arrangement). Lunch, social activities, massage, counselling. For a copy of the monthly calendar ☎ 9929 4288
 - **Fit X Gym** (M) Non-profit community gym. Positive Access Project for PLWHAs Mon, Wed, Fri 10am–1pm. At ACON, 9 Commonwealth St Surry Hills ☎ 9206 2000
 - **Pozwest (Western Sydney)** Support for heterosexual men and women and their partners. ☎ 1800 812 404 or the Haven ☎ 9672 3600
 - **The Haven (Western Sydney)** Social support, convalescent and respite care. Meals, massage, classes, cheap groceries + frozen goods, workshops, internet access. ☎ 9672 3600
 - **Blue Mountains PLWHA** Drop-in Centre 2 Station St, Katoomba. Peer support, meals. ☎ 4782 2119 ☺
 - **MacKillop Centre (Hunter)** Training + development. ☎ 4968 8788.
 - **Karumah (Newcastle)** Social + peer support for PLWHAs, carers, friends, family. Lunch Tue + Thu, monthly BBQ. ☎ 4940 8393 ☺
 - **Positive Support Network (Central Coast)** Support and referral services Mon-Fri 10am–3.30pm ☎ 4323 2905 ■ posnet@telstra.easymail.com.au
 - **Hepatitis C Council of NSW Hep C Helpline** ☎ 9332 1599 (NSW country 1800 803 990) ■ www.hepatitisc.org.au

VICTORIA

- Area code (03)
- **People Living with HIV/AIDS Victoria (PLWHA Vic)** (M) (V) Advocacy, support, representation. Speakers' bureau, treatments officer, newsletter, events, social groups. 6 Claremont St South Yarra 3141 ☎ 9865 6772 ■ www.plwhavictoria.org.au
 - **Victorian AIDS Council/Gay Men's Health Centre (VAC/GMHC)** (M) (V) 6 Claremont Street, South Yarra ☎ 9865 6700 ■ www.vic aids.asn.au
 - **Positive Living Centre** Vibrant community centre and one-stop shop for services + activities for PLWHAs. Free tea/coffee/brunch, complementary therapies info/advice, massage, naturopathy, relaxation, yoga, low-cost meals, food pantry, emergency financial relief, peer support, youth program, legal centre, social/educational/self-development courses and activities, community support, outreach social work, computer/internet/training, fitness classes. 51 Commercial Road Prahran. ☎ 9863 0444 or 1800 134 840
 - **The Centre Clinic** Community health service for positive people and the LGBT community but open to all. Rear 77 Fitzroy Street St Kilda ☎ 9525 5866
 - **AIDS Housing Action Group** State-wide confidential housing service. ☎ 9417 4311 or 1800 674 311
 - **Positive Women Victoria** (M) Statewide peer support and advocacy group for women with HIV/AIDS. Confidential support, info, advice, publications. ☎ 9276 6918 ■ www.positivewomen.org.au
 - **Aidslife** (V) Phone counselling, info, referrals. ☎ 9347 6099. HIV+ volunteers welcome, full training given. ■ www.aidshep.org.au
 - **Straight Arrows** (M) Support, services for HIV+ heterosexuals and their families. ☎ 9276 3792 ■ www.straightarrows.org.au
 - **Positive Counselling** (formerly Bouverie Centre). Free counselling for individuals,

- couples, friends or family infected or affected by HIV/Hep C. ☎ 9530 2311 (Fri only).
- **Access Information Centre at the Alfred** Community resources on HIV, hepatitis and STDs, health research on the internet. ☎ 9276 6993
 - **Inform Victoria** Directory of services for PLWHAs ■ www.inform.webcentral.com.au
 - **Country AIDS Network Victoria** ☎ 5443 8355 ■ can@mail.hitech.net.au
 - **Hepatitis C Council of Victoria** ☎ 9380 4644 (Vic country 1800 703 003) ■ www.hepcvic.org.au
 - **Hepatitis C Helpline** (V) Phone counselling, info, referral. ☎ 9349 1111. Hep C positive volunteers always welcome – full training given.

SOUTH AUSTRALIA

- Area code (08)
- **PLWHA (SA) – Positive Living Centre** (M) (V) Positive Living Centre – community centre for PLWHA and those closely affected. Mental health counselling (men + women), treatment + other HIV info, medical/dental transport, legal advice, health + wellness activities (Friday lunches, community food store, etc), complementary therapies (massage, aromatherapy, spiritual healing), Positive Speakers Bureau, individual and sector advocacy. 16 Malwa Street Glandore ☎ 8293 3700 ■ www.hivsa.org.au
 - **AIDS Council of South Australia (ACSA)** (M) (V) Face-to-face and phone counselling, financial and practical assistance, individual advocacy. 64 Fullarton Rd Norwood ☎ 8334 1611 or 1800 888 559 ■ www.acsa.org.au
 - **Adelaide Diocesan AIDS Centre** 247 South Rd Mile End. Home care, counselling, intermediate accommodation, pastoral care, PAWS, lunch (Wed) ☎ 8234 9180
 - **HIV Women's Project** Peer support group, info, advocacy. 64 Pennington Tce North Adelaide ■ info@whs.sa.gov.au ☎ 8239 9600 ■ www.whs.sa.gov.au
 - **Mosaic Counselling** A confidential and free service for people affected by HIV or hepatitis C. ☎ 8245 8100 ■ www.cope.edu.au
 - **Hepatitis C Council of SA** ☎ 8362 8443 (SA country 1800 021 133) ■ www.hepcouncilsa.asn.au

QUEENSLAND

- Area code (07)
- **Queensland Positive People Inc (QPP)** (M) (V) Representing Queensland PLWHAs with offices in major centres around the state. 289 Vulture St, Woolloongabba 4102 ☎ 3013 5555 ■ info@qpp.org.au ■ www.qpp.org.au
 - Brisbane ☎ 3846 3939
 - Gold Coast ☎ 5576 5601
 - Sunshine Coast ☎ 5441 7077
 - Rockhampton ☎ 4926 9250
 - Mackay ☎ 4953 5071
 - Townsville ☎ 4724 0277
 - Cairns ☎ 4031 4350
 - **Queensland AIDS Council (QuAC)** (M) (V) Education, advocacy, support. 187 Melbourne St, South Brisbane ☎ 3017 1777 ■ www.quac.org.au
 - Cairns – Gay Education ☎ 4041 5451
 - Cairns – Indigenous Project ☎ 4035 6491
 - Gold Coast ☎ 5572 8739
 - Sunshine Coast ☎ 5452 9805
 - Townsville ☎ 4729 2263
 - **Positive Directions** (St Luke's Nursing Service) Works in partnership with PLWHAs in a holistic, humanitarian process to provide a community-based, client-centred, wellness approach to HIV/AIDS with experienced HIV care coordinators and client support workers. Services include mental health, diet and support to diverse groups within varied social environments. ☎ 1300 785 853
 - Brisbane ☎ 3421 2841

- Cairns ☎ 4051 1028
- Townsville ☎ 4721 1384
- Sunshine Coast ☎ 5441 1222
- Gold Coast ☎ 5576 8366
- **Hepatitis C Council of Qld (HCCQ)** (M) Education, support, info, advocacy, counselling. ☎ 3236 0610 or (Qld regions/country) 1800 648 491 ■ www.hepatitisc.asn.au

WESTERN AUSTRALIA

- Area code (08)
- **HIV/AIDS Peer Advisory Network (HAPAN)** (M) PLWHA group, meets once a month. ☎ Cipri 9482 0000 ■ hapan@wa aids.com
 - **WA AIDS Council (WAAC)** (M) (V) Support services, counselling, treatments info, complementary therapies (massage, Reiki, acupuncture and pranic healing), retreats, forums, workshops, one-to-one peer support, education, women's project, newly diagnosed program. 664 Murray St West Perth. ☎ 9482 0000 ■ www.wa aids.com
 - **The Living Centre (HIV/AIDS Pastoral Care)** Peer, social and outreach support ☎ 9470 4931
 - **Hepatitis Council of WA** ☎ 9227 9800 (general enquiries) 9328 8538 (support, info) 1800 800 070 (WA country) ■ www.hepatitiswa.com.au

TASMANIA

- Area code (03)
- **Tasmanian Council on AIDS, Hepatitis and Related Diseases (TasCAHRD)** (V) 319 Liverpool St Hobart ☎ 6234 1242 or 1800 005 900 ■ www.tascahrd.org.au
 - **Sexual Health Service** 60 Collins St Hobart ☎ 6233 8691

ACT

- Area code (02)
- **PLWHA/ACT** (M) (V) Social drop-in centre at the Rainbow Room, Westlud House. Free internet, holistic bodywork, positive speaker's bureau, women's group, financial assistance, social networks, advocacy, referral, support, counselling, info, dietician's clinic and workshops. 16 Gordon St Acton ☎ 6257 4985 ■ plwha.act@aidsaction.org.au
 - **AIDS Action Council of the ACT** (M) (V) Information, referral and support. Westlud House, 16 Gordon Street, Acton ☎ 6257 2855 ■ www.aidsaction.org.au
 - **Peer Support Network** Weekly social and educational night for positive people. Free dinner. Tue 6–8pm ☎ 6257 2855
 - **ACT Hepatitis C Council** ☎ 6253 9999 or HepLine 1300 301 383 ■ www.acthepc.org

NORTHERN TERRITORY

- Area code (08)
- **PLWHA/NT** (M) PO Box 2826 Darwin 0801 ☎ Tony or Daniel 8941 1711
 - **NT AIDS and Hepatitis Council (NTAHC)** 46 Woods St Darwin 0800 ☎ 8941 1711 ■ www.ntahc.org.au
 - Alice Springs ☎ 8953 3172
 - **Men's Line** Confidential phone support, info, referral for gay and bisexual men. Sun-Tue 5.30–10.30pm ☎ 8941 1711 or 1800 181 888
 - **Hep C Info Line** ☎ 8922 8007 or 1800 353 755

ARE YOUR DETAILS CORRECT?

The Broadsheet lists services, programs and events of interest to HIV-positive people. To enquire about a free listing or to update your details, email:

KEY TO SYMBOLS

- ☎ Phone
- Internet
- ✉ Email
- ☺ Limited hours
- (M) Membership organisation
- (V) Volunteer opportunities