

## Clearing the air

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What are the potential health impacts of smoking in HIV-positive people?

Too many positive people smoke. While anti-smoking messages have led to a decline in tobacco smoking rates in the general population to about 23 percent, HIV-positive people continue to puff away as if they are somehow immune to the negative health effects of the habit: a staggering 76 percent of respondents to the most recent *HIV Futures* survey said they smoked<sup>1</sup>.

This statistic is supported by anecdotal accounts from HIV treating physicians who regularly report high rates of tobacco smoking among their patients, and it's not just Australian PLWHAs who are affected. Studies in the United States and Europe have had similar findings. A 1999 US study found that more than 70 percent of HIV-positive people were regular smokers — and of these, 80 percent had no plans to quit in the near future<sup>2</sup>.

Tobacco is one of the most widely-used and socially accepted drugs. Once smoked, the nicotine in the tobacco reaches the brain in a few seconds, stimulating a release of the neurotransmitter dopamine, which makes you feel less anxious, more mentally alert and mildly euphoric.

Nicotine reduces pain, increases the supply of blood to the brain, improves cognitive (thinking) performance and appears to have a partial protective effect against Alzheimer's disease. That's the good news.

The bad news is that nicotine is also powerfully addictive, meaning that for many smokers, the reason they smoke is not to experience these positive effects, or even to enjoy the "rich, smooth flavour" of their preferred brand, but to satisfy an addiction that can be very difficult to overcome.

### Why smoke?

Despite overwhelming evidence of the health risks and extensive, well-resourced and often shocking anti-smoking campaigns, people still smoke and people still start smoking.

Most people start smoking during their adolescence, and while different people have different reasons for starting smoking, many smokers pick up the habit because they need to belong. It's this so-called 'peer pressure' — driven by the desire to be accepted, to bond with your peer group — that leads many young people to start smoking habits which often stay with them for the whole of their lives.

Annette Braunack-Mayer, a bioethicist and senior lecturer at the University of Adelaide who has studied smoking in gay men and people with HIV/AIDS, told *PL* she believes that the pressure to smoke can be especially intense for people in these communities. Braunack-Mayer says her research uncovered "a sense of disenfranchisement from society" among gay male smokers which was related to high stress levels and depression.

Among young gay men, Braunack-Mayer believes there is significant pressure to smoke as a means to try to fit into the community. "Some of the people said they'd taken up smoking in their teens specifically because, in retrospect, they thought 'this is a way that I can show that I belong when I don't quite feel like I belong'," she said.

Furthermore, Braunack-Mayer notes that "gay culture generally is quite permissive of smoking and if you are going to gay venues, there's a lot of smoking around there and smoking gives you something to do that fits in with what everyone else is doing."

Vic Perri, an educator who has run quit smoking workshops for the Victorian AIDS Council, believes that positive people may feel they have little incentive to stop smoking. "People would ask, 'why should I stop smoking when I'm going to get AIDS eventually anyway?'"

“Even for people who were in good health and were optimistic about their prospects, there is still a degree of uncertainty and the pressure to keep smoking can be incredibly strong. Many of our participants said the hardest part was that they couldn’t go to a gay venue without feeling the pressure to smoke, and this meant they had to choose between quitting and being socially active,” he said.

## The risks

Most of us — smokers and non-smokers alike — will already be aware of the health risks faced by people who smoke: [high blood pressure](#) [1] Persistently high blood pressure, an outwardly symptomless condition which carries an increased risk of serious illnesses such as stroke, heart disease and heart attack., cardiovascular disease, emphysema and lung cancer are the most well-known. But does tobacco have specific health risks for people who are HIV-positive?

Smoking, by itself, does not make HIV infection worse and HIV-positive smokers do not progress to AIDS faster than positive people who do not smoke (although some studies in the past have suggested this). Smoking also does not affect the [effectiveness](#) [2](Of a drug or treatment). The maximum ability of a drug or treatment to produce a result regardless of dosage. A drug passes efficacy trials if it is effective at the dose tested and against the illness for which it is prescribed. In the standard procedure, Phase II clinical trials gauge efficacy, and Phase III trials confirm it. of current anti-HIV treatments, which work just as well in smokers as non-smokers.

But HIV-positive people risk developing a number of specifically HIV-related health problems if they smoke.

HIV-positive smokers have increased incidences of HIV-associated conditions affecting the **mouth and throat**.

Periodontal (gum) disease, oral candidiasis (thrush), oral hairy leukoplakia, and oral lesions are all more common<sup>3</sup>. A recent American study found that the risk of HIV-positive people developing oral candidiasis was around 2.5 times greater if they smoked tobacco<sup>4</sup>.

More significantly, smoking also carries a much increased risk of developing HIV-related opportunistic infections affecting the **lungs**. Smokers are around three times more likely to develop Pneumocystis carinii [pneumonia](#) [3]An inflammation of the lung, usually caused by infection with bacteria or other microorganisms, in which the air sacs of the lung become filled with inflammatory cells which solidify and inhibit breathing. (PCP) than non-smokers<sup>5</sup>, and are also more likely to develop other pneumonias. Mycobacterium avium complex (MAC or MAI) infection has also been more common in smokers in some studies.

An irreversible degenerative disease of the lungs, **emphysema** is a relatively common illness affecting long-term smokers, both HIV-negative and HIV-positive. But it is much more common in HIV-positive smokers, and can strike much earlier.

In a US study, 15 percent of HIV-positive smokers had emphysema, compared with 2 percent of HIV-negative smokers with similar age and smoking history, a difference the authors described as “striking”[6]. The disease was also much more advanced among the HIV-positive group.

It’s well known that smoking increases the risk of developing **lung cancer**, and in people who are also HIV positive, this risk appears to be even higher. A recent French study described 22 HIV-positive people diagnosed with lung cancer. Most were relatively young (median 45 years) had relatively well-controlled HIV (median CD4 count was 364, [viral load](#) [4]A measurement of the quantity of HIV RNA in the blood. Viral load blood test results are expressed as the number of copies (of HIV) per milliliter of blood plasma. 3000) and were more likely to be diagnosed with advanced cancer (75 percent had stage III-IV lung cancer at diagnosis)[7]. Median survival of the participants in this study was just seven months from diagnosis. An earlier US study had similar findings<sup>8</sup>.

As well as lung cancer, cigarette smoking increases the risk of developing many other cancers, particularly those affecting the mouth, throat, and larynx. At present there is no information to indicate whether these cancers are more likely to occur in HIV-positive smokers, however a Swiss HIV [Cohort](#) [5]In epidemiology, a group of individuals with some characteristics in common. A cohort study is a special kind of clinical trial which looks at a treatment or treatment strategy in a cohort of people. study noted that “no cancers of the lip, mouth, pharynx, or lung were observed in nonsmokers.”[9]

Positive women who smoke have a significantly higher prevalence of human papilloma [virus](#) [6]A small infective organism which is incapable of reproducing outside a host cell. (HPV) infection in the cervix, increasing the risk of development of cervical cancer<sup>10</sup>.

Tobacco smoking is a well-established risk factor for development of **cardiovascular disease**. Smoking causes narrowing of the arteries which carry blood through the body, raising blood pressure and increasing the heart's workload. Over time, these changes can lead to heart attacks, strokes and peripheral vascular disease.

There is also increasing evidence that long-term HIV infection and anti-HIV therapy may also increase the risk of developing cardiovascular illness. Several recent studies have shown that increases in [blood fats](#) [7]A type of fat in the blood. Elevated triglyceride levels may be a side effect of some anti-HIV drugs. ([cholesterol](#) [8]An essential component of cell membranes and nerve fibre insulation, cholesterol is important for the metabolism and transport of fatty acids and the production of hormones and Vitamin D. Cholesterol is manufactured by the liver, and is also present in certain foods. High blood cholesterol levels have been linked to heart disease and may be a side effect of some anti-HIV medications. and triglycerides) associated with HIV treatment are linked to increased rates of heart disease and increased risk of heart attack and stroke.

While the overall risk of developing heart disease as a result of HIV treatment alone is quite small, we know that the more risk factors a person has for these illnesses, the greater the likelihood of development of disease over time. This means that HIV-positive people who smoke may be at higher risk of developing cardiovascular disease than HIV-negative smokers.

Positive people who smoke also face higher risks of developing **osteoporosis**, a weakening of the bones which can lead to fractures and which has been established as a [side effect](#) [9]An unwanted effect caused by the administration of drugs. Onset may be sudden or develop over time. of some HIV treatments.

In summary, the evidence is clear enough: smoking is bad for your health, and if you're HIV-positive as well, the risks are much greater.

## Quitting

Nicotine, the active ingredient in tobacco smoke, is one of the most strongly addictive drugs and quitting smoking is rarely easy. Many smokers try to quit but fail for various reasons.

A first step to successful quitting is to understand your addiction, be honest with yourself about the need to quit and develop a plan to stop smoking that works for you. Identifying your smoking 'triggers' — the times and emotional circumstances in which you most strongly crave a smoke — can be helpful, and this is an ideal time to call on the support of family and friends as you set a date to quit and put your plan in motion.

It's also a good idea to visit your doctor and discuss your plan to quit. While smoking does not interfere with HIV medications, you may be taking other medications which may be affected if you quit smoking and you should discuss this with your doctor. Some medications for depression, [diabetes](#) [10][Diabetes mellitus] A disorder in which sugars in the diet cannot be metabolised into energy due to a lack of the enzyme insulin. Late-onset diabetes mellitus may be a long-term side effect of some anti-HIV drugs. and asthma can be affected by smoking. You doctor can also discuss the options for support, recommend quitting products and provide additional information resources.

Nicotine-replacement products (gum, lozenges, patches and inhalers) are a popular and often effective way to manage nicotine cravings after quitting, but they can be expensive. Research has shown that people who use these products are almost twice as likely to succeed in quitting smoking, especially if they smoke more than 15 cigarettes a day<sup>11</sup>. They are available from pharmacies without prescription — your doctor or pharmacist can explain how to use them safely and effectively.

A medication called Zyban (bupropion hydrochloride) is available on prescription for people who are quitting smoking. Zyban is an antidepressant which can reduce nicotine cravings and withdrawal symptoms, especially when accompanied by counselling. It interacts with protease inhibitors and non-nucleosides, leading to an

increased amount of Zyban in the bloodstream, so it's important to discuss with your HIV doctor if you're contemplating using this method. Side effects of Zyban include dry mouth, insomnia, headaches and fits, and these may be more pronounced in people also taking anti-HIV treatments. The drug is available on the [PBS](#) [11] [Pharmaceutical Benefits Scheme] The federal government program which subsidises medication costs in Australia. Anti-HIV drugs are part of a special part of the PBS called Section 100 (S100) which is used for expensive, highly specialised drugs. on a restricted authority basis.

Alternative and [complementary therapies](#) [12] A broad range of healing philosophies, approaches, and therapies that Western (conventional) medicine does not commonly use to promote well-being or treat health conditions. Examples include acupuncture, herbs, Traditional Chinese Medicine, etc. such as acupuncture and hypnotherapy may also be of benefit to people giving up smoking, especially in combination with counselling and support services.

## Support

Regardless of which method of quitting you choose, getting good support increases the chances of successfully quitting. Seeing a counsellor or joining a quit group are both strongly recommended.

Some AIDS Councils run quit groups for positive people. One of the best-known is ACON's a smoking-cessation program for people living with HIV called 'Stop Kissing Butts' ( SKB).

SKB is a five-week program, based on group therapy and peer support. Although the program was developed primarily for HIV-positive gay men, Ronnie Turner from ACON told *PL* that courses have been open also to other members of the GLBT community who want help quitting.

The program was devised directly in response to high levels of tobacco use among people living with HIV, especially gay men. "We realised this was a significant health problem for positive gay men," she said. The group therapy model, based on a successful program at St Vincent's Hospital, was chosen in response to research showing it is one of the most effective methods of support for people ceasing smoking, with success rates about double those of smokers with limited or no support.

Participants in SKB meet weekly for five weeks. The meetings are designed to be friendly and supportive, with participants given information about the health effects of smoking and the various nicotine replacement and pharmacotherapy options available. Using a process called "motivational interviewing," participants identify their personal smoking triggers to help them come to terms with the reasons why they smoke, and are taught stress management and 'self talk' relaxation techniques to help reduce cravings and manage withdrawal.

At the second session, the participants make a commitment to quit on a specific date and in following sessions discuss their successes and failures.

"The objectives were really to increase self-esteem and wellbeing by giving positive men the opportunity to set and achieve goals around taking control of their health through smoking cessation," Turner explained.

- *For further details about Stop Kissing Butts, contact the HIV Living Project at ACON on (02) 9699 8756. For information on smoking cessation programs in other states, contact your AIDS Council, PLWHA organisation, or call the Quitline on 131 848.*

## References

<sup>1</sup> Grierson J et al. HIV Futures 4: State of the [Positive] Nation. Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, 2004.

<sup>2</sup> Niaura R et al. Smoking among HIV-positive persons. *Ann Behav Med* 1999; 21 (suppl): S116.

<sup>3</sup> Niaura R et al. Human Immunodeficiency Virus Infection, AIDS, and Smoking Cessation: The Time is Now. *Clin Infect Dis* 2000; 31:808-12.

- <sup>4</sup> Chattopadhyay A et al. Risk indicators for oral candidiasis and oral hairy leukoplakia in HIV-infected adults. *Community Dent Oral Epidemiol.* 2005 Feb;33(1):35-44.
- <sup>5</sup> Miguez-Burbano MJ et al. Increased risk of *Pneumocystis carinii* and community-acquired pneumonia with tobacco use in HIV disease. *Int J Infect Dis.* 2005 Jul;9(4):208-17.
- <sup>6</sup> Diaz PT et al. Increased susceptibility to pulmonary emphysema among HIV-seropositive smokers. *Ann Intern Med.* 2000 Mar 7;132(5):369-72.
- <sup>7</sup> Spano JP et al. Lung Cancer in Patients with HIV Infection and Review of the Literature. *Medical Oncology* 21(2):109-116. 2004.
- <sup>8</sup> Vyzula R, et al. Lung cancer in patients with HIV-infection. *Lung Cancer.* 1996 Nov;15(3):325-39.
- <sup>9</sup> Clifford GM et al. Cancer risk in the Swiss HIV Cohort Study: associations with immunodeficiency, smoking, and highly active [antiretroviral](#) [13]A medication or other substance which is active against retroviruses such as HIV. therapy. *J Natl Cancer Inst.* 2005 Mar 16;97(6):425-32.
- <sup>10</sup> Minkoff H et al. Relationship between smoking and human papillomavirus infections in HIV-infected and —uninfected women. *JID* 2004; 189: 1821-1828.
- <sup>11</sup> Silagy C, Lancaster T, Stead LF, Mant D, Fowler G. Nicotine replacement therapy for smoking cessation (Cochrane Review). In: *The Cochrane Library, Library Issue 4, 2001.* Oxford: Update Software.

- [smoking](#)

**Links:**

- [1] <http://www.napwa.org.au/glossary/term/98>  
[2] <http://www.napwa.org.au/glossary/term/486>  
[3] <http://www.napwa.org.au/glossary/term/351>  
[4] <http://www.napwa.org.au/glossary/term/416>  
[5] <http://www.napwa.org.au/glossary/term/477>  
[6] <http://www.napwa.org.au/glossary/term/125>  
[7] <http://www.napwa.org.au/glossary/term/114>  
[8] <http://www.napwa.org.au/glossary/term/88>  
[9] <http://www.napwa.org.au/glossary/term/469>  
[10] <http://www.napwa.org.au/glossary/term/95>  
[11] <http://www.napwa.org.au/glossary/term/121>  
[12] <http://www.napwa.org.au/glossary/term/478>  
[13] <http://www.napwa.org.au/glossary/term/122>