Smoking cessation in cancer care services

Evidence shows that continued smoking (including pipes, cigars and smokeless devices) by people with cancer leads to poorer treatment outcomes regardless of whether the cancer is smoking-related.[1,7]

Smoking cessation leads to:[1,7]

- improved treatment outcomes
- reduced risk of primary cancer recurrence
- reduced risk of secondary cancers
- reduced treatment side effects
- decreased risk of infection
- improved breathing and increased energy
- improved quality of life
- improved survival.

It is never too late for a person with cancer to stop smoking. There is strong evidence that managing nicotine dependence and providing smoking cessation advice and support to patients who smoke is an effective smoking cessation strategy.[2]

Continued smoking after diagnosis leads to:[1,7]

- higher complication rates from surgery and slower recovery
- higher treatment-related toxicity from anti-cancer therapy and radiation therapy
- an increased risk of cancer recurrence
- an increased risk of other serious illnesses such as cardiovascular and respiratory diseases
- reduced treatment effectiveness
- safety risks for patients with reduced level of consciousness or on oxygen therapy
- an increased risk of developing a second primary cancer.

Additionally, smoking tobacco also affects the metabolism of some anti-cancer medicines (e.g. erlotinib, irinotecan, bendamustine). The effects on cytochrome P450 liver enzymes may result in altered drug clearance and plasma concentration.

Dose increases of affected drugs may be needed in patients who smoke, along with careful monitoring. Subsequent dose reduction will then be required if smoking is ceased.

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AAH model of brief intervention for smoking cessation[4]

The Ask, Advise, Help (AAH) approach for supporting smoking cessation is a brief intervention model recommended by NSW Health. Other interventions may also be used and include the 3As and the 5As.[3,4]

They can be delivered in a short timeframe, reducing one of the key barriers to health professionals providing smoking cessation advice.

Evidence shows that brief interventions are effective in helping patients to quit smoking.[4,5]

Ask

- Ask all patients if they smoke/use tobacco or use e-cigarettes/vape products.
- Record their smoking status.

Advise

- Advise all patients who smoke to quit in a clear and non-judgmental manner.
- Personalise the benefits and discuss the importance of quitting while receiving cancer treatment.
- Provide patient information on smoking cessation, including behavioural support and pharmacotherapy.

Help

- Make a routine referral to Quitline (**13 78 48**) and a tobacco treatment specialist for smoking cessation support for all patients who smoke.
- Patients must be informed of the referral and should be given the opportunity to refuse referral.
- Patients can access NRT directly from a pharmacy or on prescription from their GP/treating team.

It is the responsibility of all NSW health professionals to provide a brief intervention for smoking cessation and managing nicotine dependence in their patients.[3]

Pharmacotherapy for smoking cessation

Pharmacotherapy should be recommended to all nicotine-dependent smokers who express an interest in quitting, except where contraindicated.

Pharmacotherapy combined with behavioural support (e.g. Quitline, smoking cessation clinics or tobacco treatment specialists) is the most effective smoking cessation method.[4]

Three forms of pharmacotherapy are licensed and available in Australia to assist smoking cessation.

Nicotine replacement therapy (NRT)

NRT can increase 6- to 12-month abstinence rates by 6% compared with placebo.[4]

NRT is available in Australia without a prescription as patches, inhalers, chewing gum, oral spray and lozenges.

Nicotine patches are available on the Pharmaceutical Benefits Scheme (PBS) for nicotine dependence. A general (restricted benefit) prescription is required. Combination NRT is not currently PBS subsidised.

There are no known clinically meaningful oncology drug interactions with NRT.

NRT should be used with caution in pregnant women and patients with unstable cardiovascular disease.

Recommended NRT dose:

The dose of nicotine replacement therapy is dependent on the patient's level of nicotine dependence. The choice of delivery vehicle is dependent on patient preference.

Combination NRT (long-acting NRT (e.g. nicotine patch) + fast-acting NRT (e.g. gum, lozenge, inhaler, oral spray) is more effective than a single form of NRT. Refer to the individual NRT Product Information for dosing recommendations.[4]

Figure 1: Nicotine replacement therapy initial dosage recommendation.[4]

Assess time to first cigarette	Smokes within 30 mins of waking		Smokes more than 30 mins after waking	
Assess number of cigarettes smoked per day	10 or less a day	more than 10 a day	10 or less a day	more than 10 a day
Initial product recommendation	Nicotine 21 mg/ 24hr patch **PLUS** 2 mg gum **OR** 2 mg or 1.5 mg lozenge **OR** 1 mg spray **OR** 15 mg inhalator	Nicotine 21 mg/ 24hr patch **PLUS** 4 mg gum **OR** 4 mg lozenge **OR** 1 mg spray **OR** 15 mg inhalator	Nicotine 2 mg or 1.5 mg lozenge **OR** 2 mg gum **OR** 1 mg spray **OR** 15 mg inhalator	Nicotine 21 mg/ 24hr patch **PLUS** 2 mg gum **OR** 2 mg or 1.5 mg lozenge **OR** 1 mg spray **OR** 15 mg inhalator

Varenicline

Varenicline is the most effective single-form pharmacotherapy for smoking cessation.[4]

In a Cochrane review meta-analysis, it was found to be more effective than bupropion, more effective than NRT monotherapy and similar in effect to combination NRT.

Varenicline is available on the PBS for nicotine dependence. An authority (streamlined) prescription is required.

There are no known clinically meaningful cancer therapy drug interactions with varenicline to date. Varenicline is not recommended for pregnant and breastfeeding women, nor for adolescents. Caution should be taken if prescribing to patients with significant psychological/psychiatric distress or those who have cardiovascular disease.

Varenicline should be initiated at least seven days before the patient stops smoking.

Recommended varenicline dose:[6]

Initially 0.5 mg once daily for three days, then 0.5 mg twice daily for 4 days, then 1 mg twice daily for 11–23 weeks.

If patient suffers from intolerable nausea, consider dose reduction to 1 mg once daily.

In patients with severe renal impairment (creatinine clearance < 30 mL/minute) the dose of varenicline should be 0.5 mg once daily for 3 days, then 1 mg once daily, if tolerated.

Bupropion

Bupropion can increase 6- to 12-month abstinence rates by 7% compared with placebo.[4]

Bupropion is available on the PBS for nicotine dependence. An authority (streamlined) prescription is required.

Bupropion is contraindicated in patients with a history of seizures, eating disorders and those currently or recently (within the last 14 days) taking monoamine oxidase inhibitors). Concurrent use should be avoided with CYP2D6 substrates and CYP2B6 inhibitors, e.g. cyclophosphamide, doxorubicin, dabrafenib, tamoxifen and metoclopramide.

Bupropion is not recommended in pregnancy, and caution should be taken if prescribed with other agents that lower the seizure threshold (e.g., antidepressants, antimalarials, oral hypoglycaemic agents).

Bupropion should be initiated at least seven days before the patient stops smoking.

Recommended bupropion dose:[6]

Initially 150 mg once daily in the morning for 3 days, then 150 mg twice daily (at least 8 hours apart) for 7–9 weeks.

In patients who are elderly, or have renal or mild hepatic impairment, the dose of bupropion should be 150 mg once daily in the morning for 7–9 weeks.

Electronic cigarettes (e-cigarettes) or Vaping

There is limited evidence to support the use of e-cigarettes or vaping as a method of quitting smoking. E-cigarettes contain many harmful chemicals and toxins that may increase the risk of cancers, cardiovascular and respiratory diseases. E-cigarettes have not been assessed by the TGA for quality, safety or efficacy.

Patients should be encouraged to try evidence-based approaches to achieve smoking cessation. However, patients who have tried evidence-based methods and not been successful, the Royal Australian College of General Practitioners (RACGP) guidelines state that the use of e-cigarettes as a cessation aid may be considered, provided that patients understand risks associated with the use of these unapproved therapeutic goods.

For further information on smoking cessation please scan the following QR codes:

Cancer Institute NSW smoking cessation in cancer services

RACGP Supporting smoking cessation: A guide for health professionals

NSW Health information on e-cigarettes

References

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