Wests Rugby Club, Figs Ballroom, 65 Svlvan Rd. Toowong

Smoking cessation

Henry Marshall Thoracic Physician University of Queensland Thoracic Research Centre The Prince Charles Hospital



Recommended Reading • RACGP Guidelines "Supporting smoking cessation: a guide for health professionals " http://www.racgo.org.au/your-practice/guidelines/smoking-

Scollo, MM and Winstanley, MH. **Tobacco in** Australia: Facts and issues. Melbourne: Cancer Council Victoria; 2015. • www.TobaccoinAustralia.org.au

Global mortality comparison

ANZSRS meeting

tobacco use causes more than 7 million deaths per year

event	# deaths			
Tobacco epidemic	100 million in 20 th century			
World war 2	75 million			
1918 flu pandemic	50 million			
World war 1	15 million			
Ebola 2015	11,000			
SARS	800			

Leading risk factors contributing to disease burden in Australia, disability adjusted life years, ranked by ASR



https://www.aihw.gov.au/reports/burden-of-disease/interactive-data-risk-factor-burden/contents/overview



https://www.tobaccoinaustralia.org.au/chapter-1-prevalence/1-6-prevalence-of-smoking-teenagers

WHO Framework Convention on Tobacco Control

Article 14

- Each Party ... shall take effective measures to promote cessation of tobacco use and adequate treatment for tobacco dependence.
- for tobacco dependence. Each Party shall endeavour to design and implement effective programmes aimed at promoting the cessation of tobacco use [and to] include diagnosis and treatment of tobacco dependence and counselling services on cessation of tobacco use in national health and education programmes, plans and strategies..



NICOTINE ADDICTION CYCLE



Adapted from Benowitz. Med Clin N Am 1992;2:415-437.

Nicotine withdrawal

• Starts within 1-2 hours to 2-4 weeks of the last cigarette

Symptoms include:

- Craving Irritability, frustration, anger
 Anxiety
 Difficulty in concentration

- Increased appetite
 Restlessness
- · Depressed mood
- Insomnia

Queensland Alcohol and Drug Withdrawal Clinical Practice Guidelines: Queensland Health; 2012. Supporting wooking ensusten: a guide for health professionals Melbourne: The Royal Australian College of General Practitioners, 2011 [Updated July 2014]

Smoking cessation - what works? what's safe?





Mortality rates by specific cause of death in patients with asymptomatic airway obstruction followed for up to 14.5 yrs after randomisation. CHD: coronary heart disease; CVD: cardiovascular disease.

Anthonisen NR, Skeans MA, Wise RA, Manfreda J, Kanner RE, Connett JE. The effects of a smoking cessation intervention on 14.5-year mortality: a randomized clinical trial. *Ann Intern Med* 2005: 142(4): 233-239.

Before Intervention

• Before intervention, things to consider:

- · Matching to stage of change
 - Smoking unlikely to be key goal for patient, so how to approach with sensitivity?
- · Goal maybe to only offer support with understanding
- Matching to stability and openness of patient
- Acute episode presentation versus discharge
- Using clinical judgment to level of intervention
 Brief offer of replacement vs full five A's and beyond

Brief Intervention What's the point?

> "Minimal intervention lasting less than three minutes increases overall tobacco abstinent rates." Puschel et al., 2008

One in every 33 conversations with a health professional will lead to a patient successfully quitting smoking. Stead, Bergson & Lancaster, 2008

Goal is to elicit 'Change Talk'

Brief Intervention

- Keeping it brief and keeping goals realistic Brief, repetitive and positive messages
- Adding more to assessment can be difficult 5A's or maybe Just the first A?
 - "Do you smoke?" is this enough on initial presentation? • Highlighting just one motivator.
 - Sowing a seed
 - · Establishing rapport just starting a conversation about smoking "What do you like about it?"

Pharmacotherapy plus behavioural support helps smokers





Stead LF, Koilpillai P, Fanshawe TR, Lancaster T. Combined pharmacotherapy and behavioural interventions for smoking cessation. Cochrane Database of Systematic Reviews 2016

Smoking cessation for people with severe mental illness (SCIMITAR+): a pragmatic randomised controlled trial.

- · 21 community-based mental health sites in the UK, 2015-2016
- 526 individuals randomly assigned (1:1) to a bespoke smoking cessation intervention or to usual care. Not blinded.
- 88% of intervention participants engaged with the treatment programme and attended 6·4 (SD 3·5) quit smoking sessions
- 55% participants in the intervention group and 37% in the control group recorded pharmacotherapy use via self-report.
- Varenicline was rarely prescribed; at the commencement of the trial it was contraindicated for people with severe mental illness.
- 6 months quit: 14% in the intervention group vs 6% in control group (OR 2-4, 95% Cl 1-2 to 4-6; p=0-010).
- + 12 months quit: 15% in the intervention group vs 10% control group (OR 1-6, 95% Cl 0-9 to 2-9; p=0-10).

Gilbody S, Lancet Psychiatry. 2019 May;6(5):379-390. doi: 10.1016/S2215-0366(19)30047-1. Epub 2019 Apr 8

Risk of neuropsychiatric adverse events associated with varenicline: systematic review and metaanalysis

- 39 RCTs (10,761 participants), up to May 2014
- · no evidence of increased risk of
 - suicide or attempted suicide (OR1.67, 95% CI 0.33 to 8.57),
 - suicidal ideation (0.58, 0.28 to 1.20),
 depression (0.96, 0.75 to 1.22),

 - irritability (0.98, 0.81 to 1.17),
 aggression (0.91, 0.52 to 1.59),

 - death (1.05, 0.47 to 2.38)
- Varenicline was associated with an increased risk of sleep disorders (1.63, 1.29 to 2.07), insomnia (1.56, 1.36 to 1.78), abnormal dreams (2.38, 2.05 to 2.77), and fatigue (1.28, 1.06 to 1.55) but a reduced risk of anxiety (0.75, 0.61 to 0.93).

Thomas Kyla H., Risk of neuropsychiatric adverse events associated with varenicline: systematic review and meta-analysis BMJ 2015; 350 :h1109

EAGLES (Evaluating Adverse Events in a Global Smoking Cessation Study)

Non

2.4%

placebo

Psychiatric

n=4116

6.5%

6.7%

5.2%

4.9%

- Neuropsychiatric safety study developed with the FDA, 16 countries; 8,144 participants
- double-blind, triple-dummy, placebo-controlled varenicline, bupropion, placebo and NRT patch
- psychiatric n=4028 no significant risk of mod-severe neuropsychiatric effects for varenicline or bupropion 1.3% varenicline bupropion 2.2% most common adverse events varenicline -nausea (25%)
 bupropion - insomnia (12%) NRT patch 2.5%
- FDA removed the black box warning on varenicline.

Anthenelli, Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial The Lancet, 2016, 387, 2507 - 2520

Date of listing on the Pharmaceutical Benefits Scheme (PBS)

- Bupropion: 22 August 2000
- NRT:
 - 1 May 2000 (Repatriation only)
 - 1 December 2008 (Aboriginal and Torres Strait Islander population)
 - 1 February 2011 (general population)
- Varenicline: 1 January 2008





Systematic review of negative beliefs and attitudes towards discussing smoking cessation with patients

19 studies from 11 countries published in English (Au=1) 1988-2004

- The most common negative beliefs were
- 42% discussions were too time-consuming
 38% discussions were ineffective
- . 22% Lack of confidence in their ability to discuss smoking
- 18% felt discussions were unpleasant
- 16% lacked confidence in knowledge,
- 5% considered discussing smoking outside of their professional duty
- 5% intruded upon patients' privacy
- 3% discussions were inappropriate

Vogt F, Hall S, Marteau TM. General practitioners' and family physicians' negative beliefs and attitudes towards discussing smoking cessation with patients: a systematic review. Addiction 2005;100:1423-31

Factors influencing European GPs' engagement in smoking cessation

- 1990-2007, included grey literature
- No single factor or category of factors explains the variations in engagement
- Strategies to improve the frequency and quality of GPs' engagement need to address the multifaceted influences on GPs' practice



Stead, M., et al. (2009). "Factors influencing European GPs' engagement in smoking cessation: a multi-country literature review." Br J Gen Pract 59(566): 682-690.

Smoking cessation intervention practice in Metro North

On-line survey, WHO World No Tobacco Day 31 May 2017 - Open for 21 days

 Response rate: 8% (n=1288/ N = ~16,000) 47.8% of clinical employees have never received any formal training in smoking cessation intervention

- 36.3% of medical officers, 39.2% of nursing staff, 60% of allied health staff

Type of Formal training received	N (%)
Hospital in-service	286 (38.4%)
Online course	45 (6.0%)
Undergraduate college/university	78 (10.5%)
Post-graduate short course	19 (2.6%)
Other (please specify)	54 (7.2%)

M. Mokoonlall 22nd Congress of the Asian Pacific Society of Respirology International Convention Centre, Sydney, Australia, 23–26 Nov 17 Presentation Date: 25 Nov 17

10.8% of the above reported sessions over more than 1 day

Addressing the barriers

Training health professionals to provide smoking cessation improves quit rates

- 17 Randomized trials in which the intervention was training of health care professionals in smoking cessation. Outcome = quit rates RESULTS:
- point prevalence quit rates increased (OR 1.36, 95% CI 1.20 to 1.55, 14 trials)
- continuous abstinence increased (OR 1.60, 95% CI 1.26 to 2.03, 8 trials)
- Trained Healthcare professionals were more likely to
 - ask patients to set a quit date (p< 0.0001),
 make follow-up appointments (p< 0.00001),
 Counsel smokers (p< 0.00001),

 - provide of self-help material (p< 0.0001) and prescription of a quit date (p< 0.00001).
- No evidence of an effect was observed for the provision of nicotine gum/replacement therapy.

Carson KV, Verbiest ME, Crone MR, et al. Training health professionals in smoking cessation. The Cochrane database of systematic reviews 2012;5:Cd000214.



8th workshop first was April 2016. every 6

29/10/2019 - 281 pre training responses and 70 post training

organizational change

- · effective organizational change requires more than staff training
- it requires technical assistance and organizational theory to address attitudinal and system barriers
- · promotes culture change in which tobacco use is treated and not just accepted as a given or even supported as a behavioural modification tool
- · Addressing cultural barriers and strengthening the care system (e.g., integrated treatment) increases the probability that interventions will be sustained past their initial implementation.

Flitter AS,. Nicotine & tobacco research : 2019: 21(5): 559-567

Champion - a person who vigorously supports or defends a person or cause.

- · Survey of evidence-based smoking cessation treatments (EBSCTs) in 40 Ontario family health teams (FHTs).
- the presence of a physician champion in the FHT was positively associated with rates at which EBSCTs are delivered (odds ratio [OR] 2.0; 95% CI 1.1 to 3.6; P < .01).
- · providers who ranked the importance of smoking cessation highly were more likely to deliver cessation advice to patients (OR 1.7; 95% CI 1.1 to 2.7; P < .01).

Papadakis S, Gharib M, Hambleton J, Reid RD, Assi R, Pipe AL. Delivering evidence-based smoking cessation treatment in primary care practice: experience of Ontario family health teams. *Canadian family physician Medecin de familie canadine* 2014:60(7):e362-371.



Harm reduction will not help lung cancer





Tammemägi MC. N Engl J Med 2013;368(8):728-36. (PLCO ever

Peto J. That lung cancer incidence falls in ex-smokers: misconceptions 2. Br J Cancer 2011;104:389-.

Intermittent quitters and lung function



Anthonisen, N.R., Connett, J.E., and Murray, R.P. Smoking and lung function of lung health study participants after 11 years. Am J Respir Crit Care Med. 2002; 166: 675–679

Cardiovascular risk: No 'safe' level of smoking

- Compared to never smokers, one cigarette per day leads to:
 heart disease: 48% higher risk in men and 57% increase in women
 Stroke: 25% higher risk in men and 31% increase in women
- People who smoke one cigarette each day have 40-50% of the excess risk of heart disease and stroke as someone who smokes 20 per day

Hackshaw A, Low cigarette consumption and risk of coronary heart disease and stroke: meta-analysis of 141 cohort studies in 55 study reports. BMJ 2018;360:j5855.



Global sales of ENDS (£bn) and annual growth



http://www.ey.com/Publication/wuLUAssets/ENDS_-_an_update_on_a_rapidly_evolving_vapour_market/\$FILE/BAT%202017_report_FINAL-Ir.pdf



Giroud C,. Int J Environ Res Public Health 2015;12(8):9988-10008.

No quit benefit



Outbreak of Lung Injury Associated with the Use of E-Cigarette, or Vaping, Products

- https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html
- October 22, 2019, 1,604* cases of e-cigarette, or vaping, product use associated lung injury (EVALI) have been reported to CDC
- · Thirty-four deaths have been confirmed
- tetrahydrocannabinol (THC) is present in most of the samples tested and most patients report a history of using THC-containing products.
 products containing THC, particularly those obtained off the street or from other informal sources (e.g. friends, family members, illicit dealers), are linked to most of the cases and play a major role in the outbreak.
- 70% of patients are male. median age is 24 years (range 13 to 75 years)
- 86% reported using THC-containing products; 34% reported exclusive use of THC-containing products.
- 64% reported using nicotine-containing products; 11% reported exclusive use of nicotine-containing products.

A meta-analysis of the effectiveness of smartphone apps to aid smoking cessation

Study or Subgroup	Ap Events	p Total	Usual care / cont Events	trol App Total	Weight	Risk Ratio M-H. Random, 95% CI	Risk Ratio M-H, Random, 95% Cl
Baskerville 2016 (1)	33	299	19	261	13.9%	1.52 [0.88, 2.60]	
Baskerville 2018c (2)	72	820	71	779	19.4%	0.96 [0.70, 1.32]	+
BinDhim 2018 (3)	59	342	27	342	16.5%	2.19 [1.42, 3.36]	
Bricker 2014 (4)	10	98	7	98	7.6%	1.43 [0.57, 3.60]	
Buller 2014 (5)	8	51	14	51	9.5%	0.57 [0.26, 1.24]	+
Garrison, 2018 (6)	23	143	36	182	15.4%	0.81 [0.51, 1.31]	-++
Hicks 2017 (7)	3	5	3	6	6.2%	1.20 [0.41, 3.51]	
McClure 2016 (8)	12	33	11	33	11.5%	1.09 [0.56, 2.11]	_
Total (95% CI)		1791		1752	100.0%	1.15 [0.85, 1.57]	+
Total events	220		188				-
Heterogeneity: Tau ² =	0.10; Ch	i ² = 16	23, df = 7 (P = 0.0	$(2); ^2 = 57$	%		
Test for overall effect:	Z = 0.91	(P = 0.	36)				Favours control Favours intervention App

Barnett et al ERS Madrid 2nd October 2019

eQUIT STUDY ACTRN12619000159156

- · Metro north Pilot Randomised Controlled Trial of e-Resources to help smokers quit
- Assess the acceptability and potential effects of the My QuitBuddy app vs the Quit HQ webpage in an older population

My QuitBuddy + standard care Quit HQ Webpage + standard care





Jenny Peek, Adrienne Kostellar, Pauline Hughes, Karen Hay, John Serginson, Subodh Kumar, Zaheerodin Bhikoo, Henry Marshall; The Prince Charles Hospital, QIMR Berghofer Medical Research Institute, Redcliffe Hospital, Caboolture Hospital, The Royal Brisbane and Women's Hospital

In summary

- Smoking remains the leading health risk factor
- All pharmacotherapies are safe, yet under-prescribed; varenicline probably has best outcomes on average*
- · Barriers at individual and service-level have persisted for 20+ years
- · Each of us has an important role to play as champions and leaders
- · Organizational Change is needed at all levels to have sustained effects
- · Complete abstinence, rather than 'harm reduction' is the goal
- E-cigs unproven and not risk-free
- Smartphone apps unproven but probably risk free

* But we tailor our treatments!

Thank you!

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