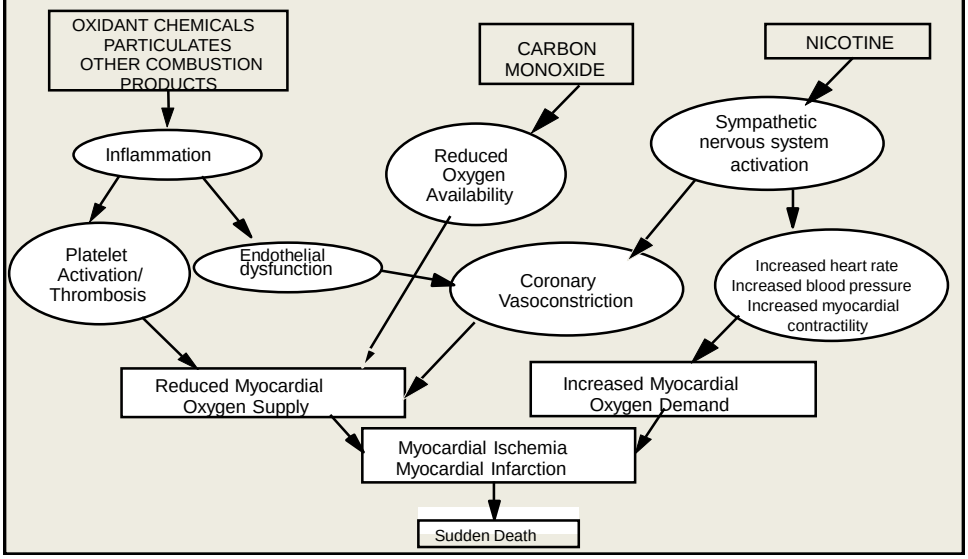
# Tobacco kills in three main ways …

- Cancer
- Cardiovascular disease
  *including ischemic heart disease, atherosclerosis, stroke*
- Respiratory disease
  *including: chronic obstructive lung disease, bronchitis, pneumonia*

# Smoking and Coronary Artery Disease (CAD)

- Smoking plays a role in the development of CAD via:
  - Endothelial dysfunction
  - Increased thrombogenicity
  - Elevated WBC counts
  - Increased oxidative stress
  - Reduced NO biosynthesis
- Smoking acts as a multiplicative risk factor for development of CAD
- Smoking is associated with an increased
  - Rate of progression of CAD
  - Risk of angina
  - Risk of acute myocardial infarction
  - Risk of sudden cardiac death
  - Risk of Q-wave myocardial infarction after Percutaneous Coronary Revascularization

# PATHOPHYSIOLOGICAL MECHANISMS of TOBACCO-RELATED CVD




# Exposure to tobacco smoke is very harmful….


- ✓ Causes illness, including fatal illnesses
- ✓ Tobacco smoke contains 4000+ toxins, and >50 known carcinogens
- ✓ No safe level of exposure. Ventilation does not protect.
- ✓ Workplace exposure a particular concern
- ✓ Only 100% smokefree environments can protect health

## Rationale for targeted patients

Some examples:

- Paediatric wards/healthcare facilities – reduce parental smoking
- Cardiology wards – reduce patient smoking and encourage quitting to improve heart health
- Respiratory wards – reduce patient smoking to improve lung function
- Surgical patients – improve wound healing by encouraging patients to quit smoking prior to surgery

## Benefits of tobacco-free healthcare

- Reduced staff and patient exposure to tobacco smoke
- Staff more likely to quit smoking, particularly doctors
- Brief advice to patients to quit is effective
- Patients more likely to quit or reduce their smoking
- Reduced risk of fires
- Reduced cleaning costs

# A best practice model

**Tasks**

- Develop, implement, enforce and review a 100% tobacco-free policy
- Develop, implement and maintain cessation support for staff, patients and families

**Tools**

- Communication
- Systems
- Staff training

**Outcomes**

- 100% tobacco-free healthcare facility
- Affordable, accessible cessation support

*Quality control - Review and evaluate*

# Working towards a tobacco-free healthcare facility



Phases

- Preparation and planning
- Development
- Implementation, enforcement, and maintenance
- Review and evaluation

## Outcomes

A 100% tobacco-free healthcare facility
- Good compliance
- High awareness of the harms of tobacco
- Reduced exposure to tobacco smoke

Cessation support available for staff/patients and family members
- Increased quit attempts
- Increased long term success in quitting

## Providing smoking cessation support in a healthcare facility

Chao-Yang Hospital, Beijing, China © Dr Xiao Dan

## Smoking cessation support includes:

- √ Asking *all* patients if they smoke or are exposed to smoke in the home
- √ Giving *all* patients who smoke brief advice to quit
- √ Offering cessation support to *all* patients who smoke
- √ Offering cessation support to all staff

- Use CO monitoring

- Respiratory functions: Lung life or spirometry

## TOBACCO CESSATION TRIALS in HOSPITALIZED PATIEN

- Greater quit rates among hospitalized patients
  - Admitted with CVD, RR=1.42
  - Provided on-unit counselling with follow-up support for >1 mo after discharge, RR=1.37
  - Provided NRT, RR=1.54
  - No effect found for less intense interventions
  - Insufficient evidence for adding bupropion (3 trials) or varenicline (2 trials)

*Rigotti, NA, Cochrane Database Syst Rev., 2012*
*Meta-analysis, 25 trials*

## RELAPSE following MI HOSPITALIZATION

- Most patients return to smoking within 6 months following an MI hospitalization
- Patients more likely to stay smoke-free if…
  - Hospital has a cessation program
  - Patient referred for cardiac rehab
  - Less depressive symptoms during hospit

Dawood et al. (2008). *Arch Intern Med* 168:1961-1967.

# TREATING TOBACCO DEPENDENCE in HOSPITALIZED CVD PATIENTS

- Quit rates: intervention (**42%**) vs. usual care (**34%**)
- Patients more likely to quit if treatment provided:
  - 6+ interactions: *OR* = 1.67
  - Greater duration & intensity: *OR* = 3.17
  - Concurrent use of NRT or bupropion: *OR* = 2.13

**Behavioral smoking cessation interventions initiated during hospitalization result in a significantly higher quit rate compared to usual smoking cessation advice.**

WORLD HEART FEDERATION

Aziz et al. (2009). *Int J Cardiology.*
*Meta-analysis of 11 RCTs (N=2751), 1990-2007*

# TOBACCO CESSATION TREATMENT in PATIENTS with CHD

- Positive long-term treatment effect: *OR* = 1.66
  - Brief interventions: *OR* = 0.92 (not significant)
  - Self-help: *OR* = 1.48
  - Telephone support: *OR* = 1.58
  - Behavioral therapies: *OR* = 1.69
  - Intense interventions (follow-up >1 mo): *OR* = 1.98

**Behavioral smoking cessation interventions in patients with CHD are effective in promoting abstinence at 1 year, provided they are of sufficient duration.**

*Barth et al. (2008). Cochrane Reviews.*
*Meta-analysis, 16 trials (N=2677), 1974-2003*

# FUNDAMENTAL PRINCIPLE

**Treat smoking in exactly the same way that you would manage any other cardiovascular disease risk factor**

A. Pipe (2013) The Ottawa Model of Smoking Cessation

# TOBACCO TREATMENTS with DEMONSTRATED EFFICACY

- Physician Advice
- Formal Smoking Cessation Programs
  - Individual Counselling
  - Web and telephone
  - Group Programs
- Medications
  - NRT
  - Bupropion
  - Varenicline
  - Cytisine

## Smoking status of patients

Patients should be asked if they smoke:

- Prior to elective surgery (at the time surgery date is set)
- At every presentation to the healthcare facility

Suggested questions to avoid ambiguity:

1. Do you currently use tobacco?
2. Are you exposed to tobacco smoke in the home?

## Give brief advice

- It should take 1-3 minutes
- Give clear advice that the best thing a patient can do to improve their health is to quit smoking
- Personalise the advice by linking it to relevant ill-health
- Discuss the benefits of quitting

## Providing cessation support - (behavioural support)

- Provide information on the harms of smoking and the benefits of quitting
- Offer tips for quitting and how to avoid cues to smoke, deal with cravings, and urges to smoke
- Advise that complete abstinence is best
- Offer intensive support to patients with high nicotine dependence
- Provide follow up support

## Options for providing smoking cessation support

- Refer people to an existing smoking cessation clinic if accessible and affordable, or a national/regional quitline
- Establish a new smoking cessation (face-to-face and/or quitline) service or review an existing service
- Frontline doctors and nurses provide cessation support as part of their role

## Tools needed

- Regular internal and external communication
- Systems to ensure routine provision of smoking cessation
- Training of all staff

## Communication

**Objectives:**

- Raising awareness/knowledge of harms of tobacco use
- Compliance with the policy
- Successful quit attempts

## Develop a communication plan

Targeting:

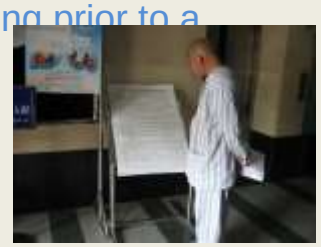
- Staff
- Patients/family members
- Visitors

## Communication with staff

- Communicate with staff from day one of preparation phase
- Encourage staff to quit smoking
- Keep staff informed and consult with staff on policy details, launch date, and later review of the policy
- Inform staff of new systems and training

## Communicating with patients, their family members, and visitors

- Go public at least one month prior to the policy launch
- Keep the public informed of policy details, dates etc
- Encourage patients to quit smoking prior to a hospital stay



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## Systems development

- Design clear systems and documentation processes
- Identify the key people who will design the systems
- Decide whether the documentation processes will be electronic or paper-based
- Include smoking status questions on all admission forms
- Design an alert system to remind health staff to give patients brief cessation advice
- Design a referral pathway for cessation support

# Training programme

Who needs training?

- All staff
- Some staff need specific training



# Systems training

'On the job' training (including documentation) is given to specific staff when:

- Paper-based and electronic forms are updated
- New protocols and systems are developed

## Smoking cessation training

- Brief advice – all health staff including allied health, mental health, and alcohol and other drug workers
- Cessation support – health staff who will provide cessation support as part of their role
- Specialised cessation support – health staff whose sole focus is cessation

## Evaluation

In the preparation phase develop:

- process and outcome key indicators
- a checklist for measuring progress
- questions for baseline survey

After one year:

- review monitoring data collected
- develop complete checklist
- evaluate policy, systems and cessation support