



CHRONIC DISEASE MANAGEMENT – WHAT WORKS?

A/Prof Goh Lee Gan

Professorial Fellow, Division of Family Medicine,
University Medicine Cluster
National University Health System



Outline

- Important chronic diseases
- Disease clusters & what works
 - Bone and joint cluster
 - Metabolic syndrome cluster
 - Chronic respiratory disease cluster
- Changing role of the doctor
- Take home messages

Important chronic diseases

- Singapore burden of disease study 2004 – (Phua et al, 2009) High burden of disease in - **diabetes, strokes, osteoarthritis**
- Self reported health study of 5000 Singaporeans (Malhota et al, 2012)
 - Most prevalent - **Hypertension (52.1%), joint/nerve pain (30.7%), DM (21.8%)**
 - Most disabling – **stroke (OR 12.7), pelvic/femoral fractures (OR 5.9), osteoporosis (OR 3.1)**

BONE & JOINT CLUSTER

a case in point

- Aged 50. BMI 30. Knee pain
- Osteoarthritis – refer physiotherapy
- Trip to Shanghai – “Doctor, no need physiotherapy now”
- How much weight loss do you need?

CARDIOMETABOLIC DISEASE CLUSTER IN SINGAPORE

2010 (18 –69 years) Disease

- Diabetes mellitus (T2DM) = 11.3%
- Hypertension = 23.5%
- High total cholesterol = 17.4%
- Obesity = 10.8%

2013 Deaths

Of the 18,938 deaths (2013)

- IHD = 15.5%
- Cerebrovascular disease = 8.9%
- Diabetes mellitus = 1.3%
- Total: cardiometabolic deaths = 25.7%

Lifestyle change is the key



- Criteria of metabolic syndrome = 3 out of the following 5:
- Overweight/ Obesity = BMI >23.
 - Waist circumference >90 cm male. >80 cm female
 - Hypertension
 - Hyperlipidemia
 - Diabetes mellitus

TABLE 2. APPROXIMATE MORTALITY REDUCTION POTENTIAL OF LIFESTYLE AND DIETARY CHANGES ESTIMATED FROM STUDIES IN CAD PATIENTS AND THE GENERAL POPULATION

Recommendation	Mortality Risk Reduction Estimated from Studies in CAD Patients (Secondary prevention)	Mortality Risk Reduction Estimated from Cohort Studies in General Population (Primary prevention)
Combined dietary changes	45%	15-40%
Physical activity	25%	20-30%
Smoking cessation	35%	50%
Moderate alcohol	20%	15%
Source: Iestra, 2005		

Diabetes Prevention Program

NEJM 2002 Feb 7;
346(4):393-403

(n = 3234)

Reduced DM
in IGT patients
by 56%
through:
Diet
Exercise
BW control

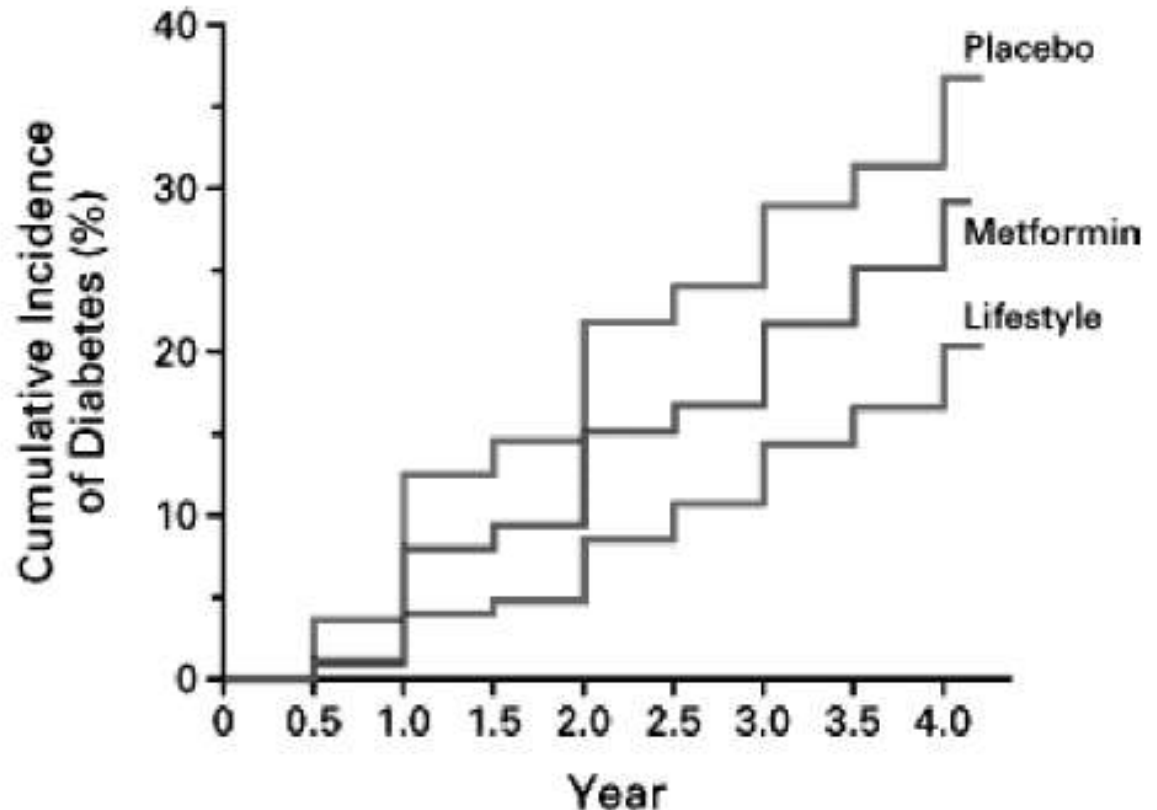
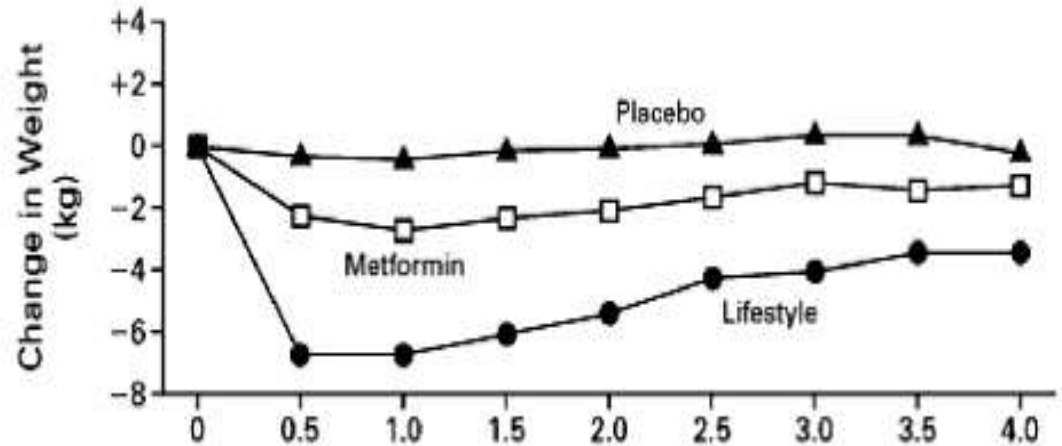
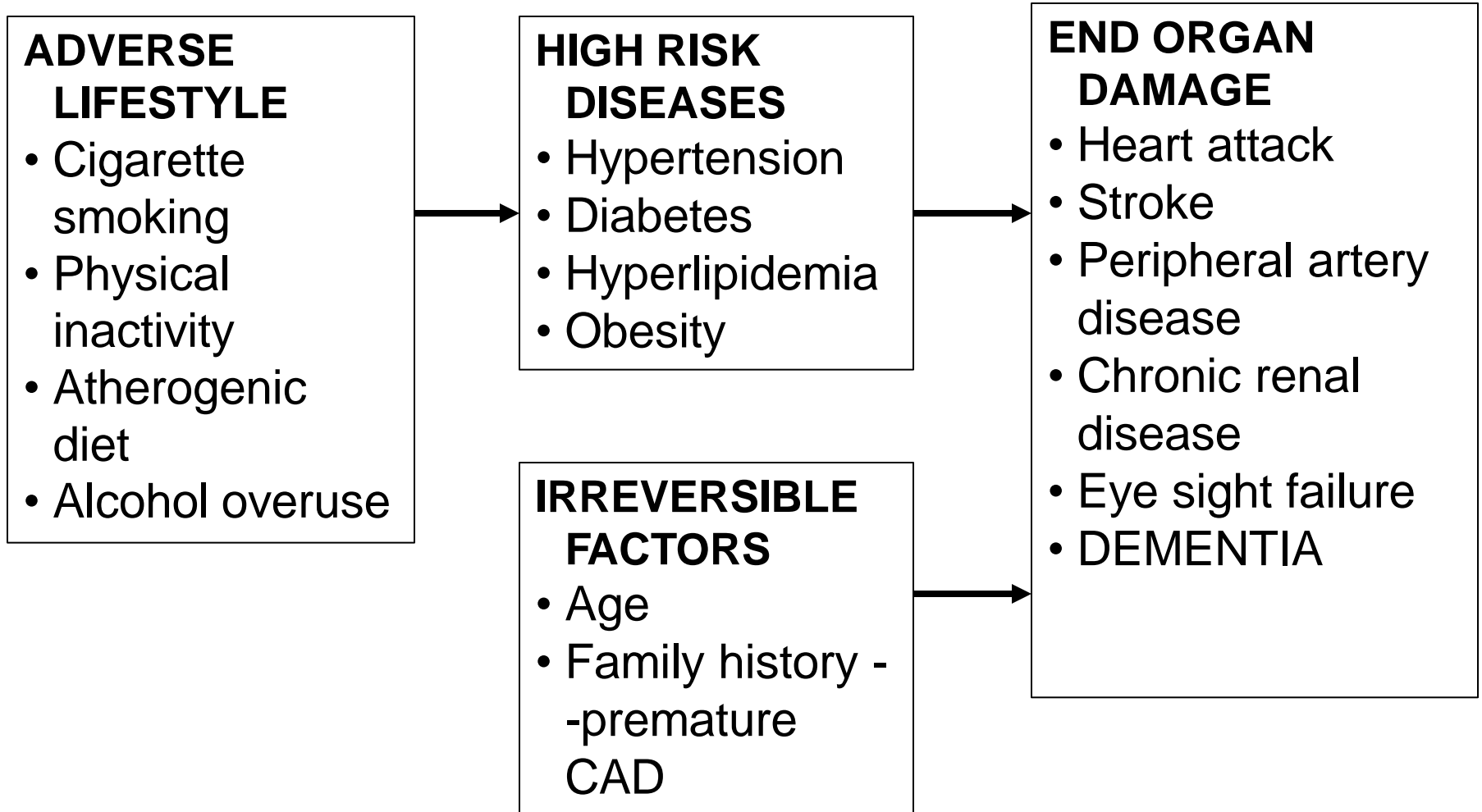
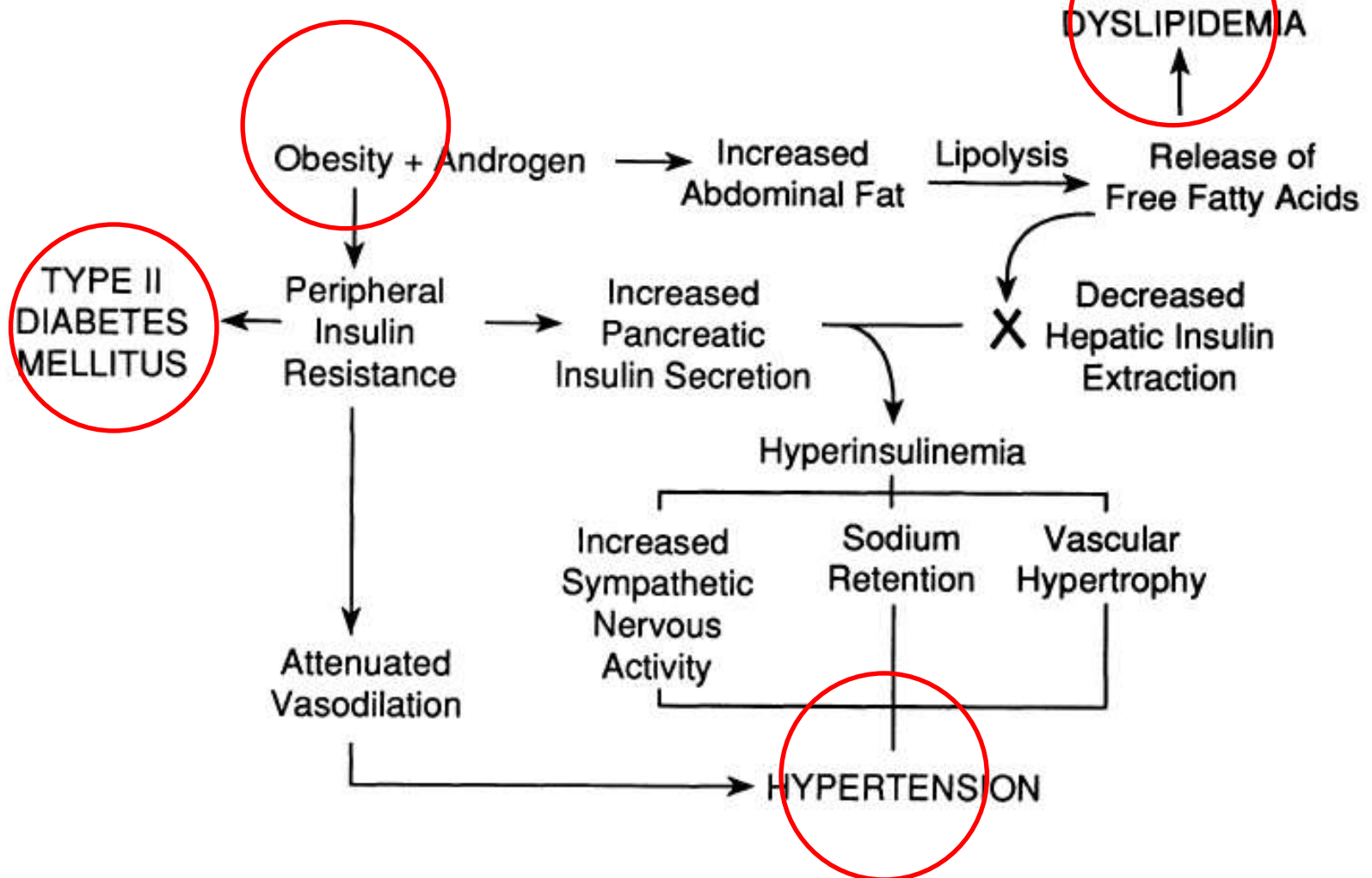


FIGURE 1 -- MAJOR RISK FACTORS FOR CVD



Pathogenesis of Deadly Quartet



Source Kaplan NM. Arch Intern Med 1989 149:1514-1520

FORMULA FOR INTENSIVE LIFESTYLE INTERVENTION IN PREDIABETES

HEALTHY DIET

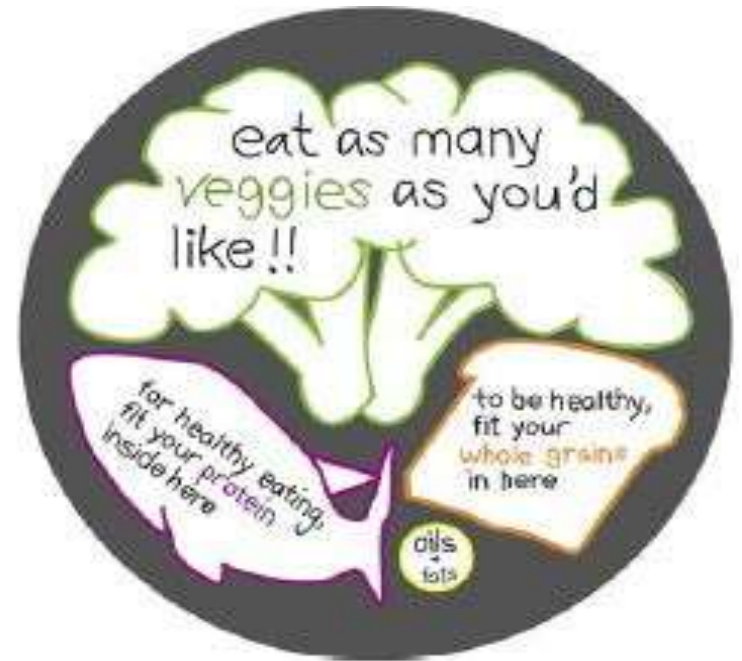
- Eat a healthy meal plate
- Eat every meal
- Boil, steam; not fry your food
- Eat 70% full for buffet
- Calorie deficit diet if overweight
- No sweetened beverages; and no fruit juices

PHYSICAL ACTIVITY

- Brisk walk 30 min each day X 5 days a week
- Resistance exercises -- 3 times a week

WEIGHT REDUCTION

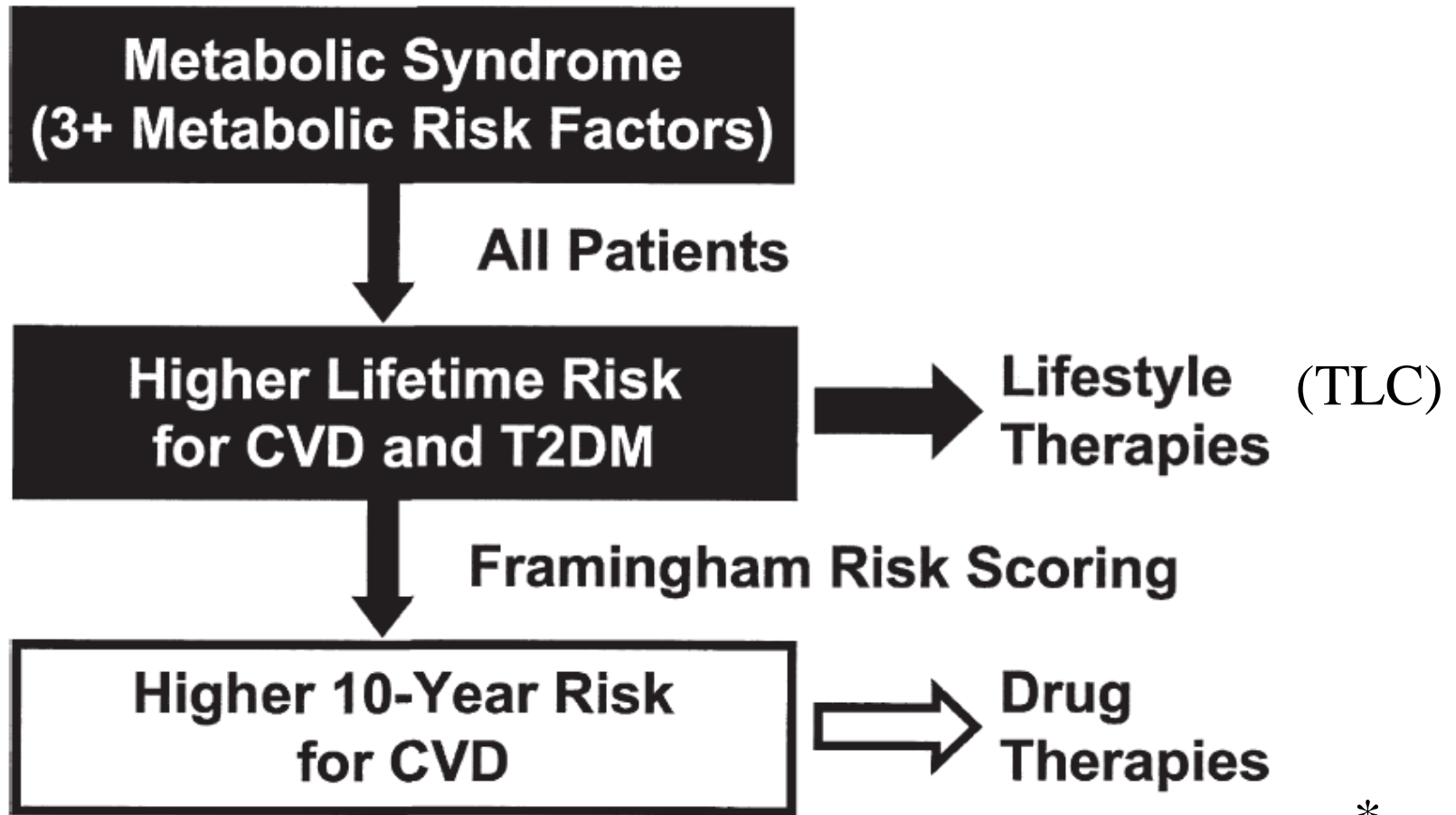
- 7 - 10% weight loss in 6 months
- Maintain BMI of less than 23 kg/m² (Asians)



SOURCES OF INFORMATION

- American Diabetes Association. Standards of Medical Care, 2013
- American College of Sports Medicine & American Diabetes Association. Colberg et al, 2010
- American College of Sports Medicine & American Heart Association. Haskell et al, 2007
- Diabetes Healthy Plate. Risadl et al, 2007
- Diabetes Preventive Programme (DPP). Knowler et al, 2002
- Diabetes Prevention Study (DPS). Tuomilehto et al, 2001
- Bohnert AM, Randall ET, Tharp S, et al. 2011

Total solution for Metabolic syndrome



ACEI, Aspirin, Lipid lowering drugs

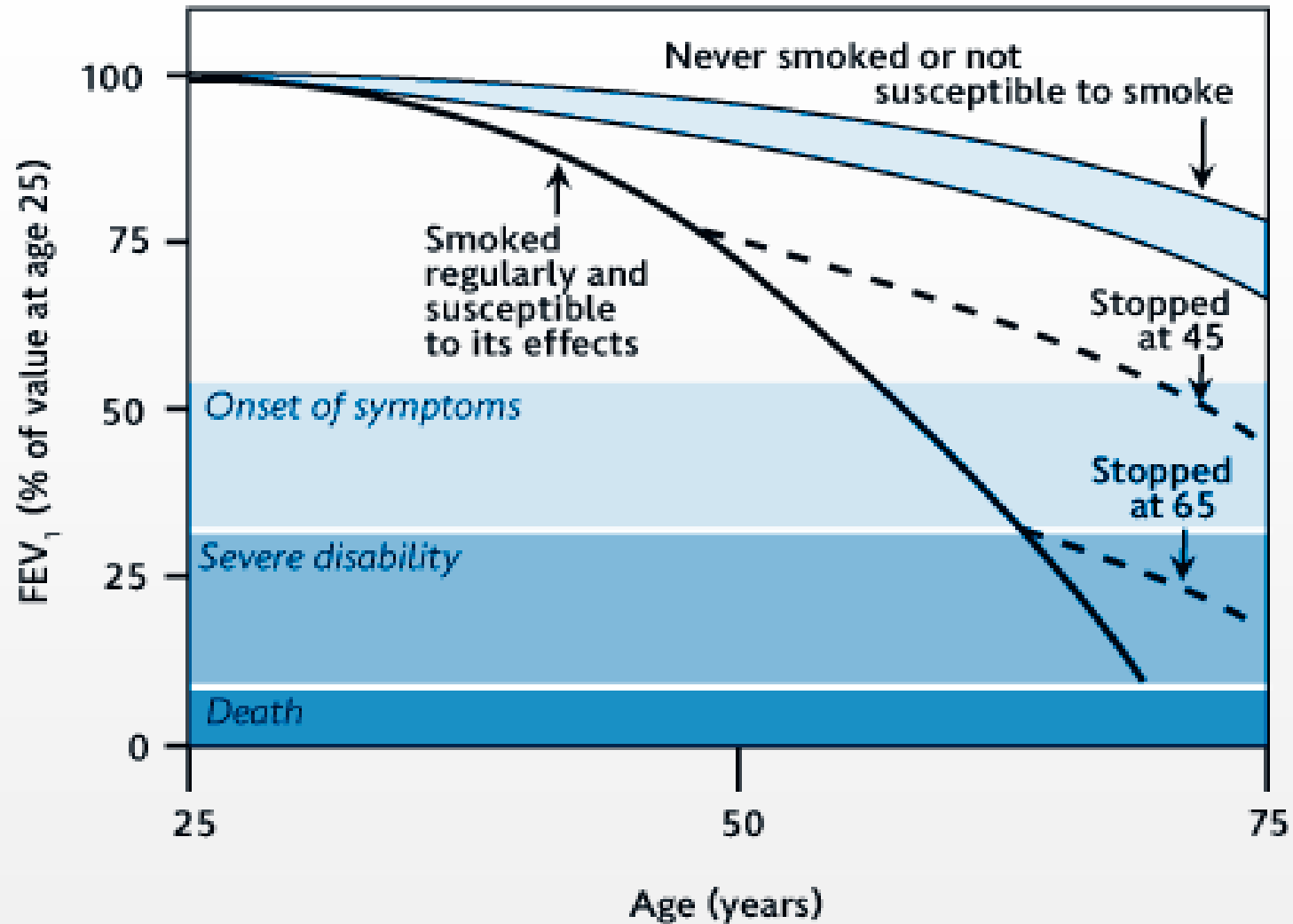
Grundy SM. AJM 2007; 120(9A):S3-S9



CHRONIC RESPIRATORY DISEASE CLUSTER

- Smoking cessation – reduces risk of death by 50%
- Treatment of COPD – bronchodilators, pulmonary rehabilitation
- Treatment of complications
- Advanced care planning

The power of smoking cessation





CHANGING ROLE OF THE DOCTOR

- **Paternalistic** – Do as I tell you
- **Coach** - Help identify strengths, weaknesses, monitor progress, encourage and inspire
 - Counselling
 - Motivational interviewingEmphasise prevention & life course approach



TAKE HOME MESSAGES

- Chronic diseases management – work on them today
- Start Lifestyle change
- Treat high risk diseases
- Your doctor is your coach – you are the driver