

# Reducing the Risk of Having a Heart Attack

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# Cardiovascular Disease (CVD).....

- Includes all diseases and conditions of the heart (cardio) and blood vessels (vascular) e.g. coronary heart disease, high blood pressure, heart attack (myocardial infarction), heart failure and stroke

# Cardiovascular Disease

- Affects nearly one in five Australians–
- One person has a heart attack every 9 minutes
- 30% of all deaths are caused by cardiovascular disease
- One life lost every 11 minutes.
- 9 in 10 adults have at least 1 risk factor for CVD and 1 in 4 (25%) have 3 or more risk factors
- 11% of health expenditure used for treating CVD

**Figure 2: Leading underlying causes of death in Australia by age group, 2010–12**

	1st	2nd	3rd	4th	5th
Age 25–44	External Suicide	External Accidental poisoning	External Land transport accidents	Circulatory Coronary heart disease	Cancer Breast cancer
Age 45–64	Circulatory Coronary heart disease	Cancer Lung cancer	Cancer Breast cancer	Cancer Colorectal cancer	External Suicide
Age 65–84	Circulatory Coronary heart disease	Cancer Lung cancer	Circulatory Cerebrovascular disease	Respiratory COPD	Other Dementia & Alzheimer disease
Age 85–94	Circulatory Coronary heart disease	Other Dementia & Alzheimer disease	Circulatory Cerebrovascular disease	Respiratory COPD	Circulatory Heart failure
Age 95+	Circulatory Coronary heart disease	Other Dementia & Alzheimer disease	Circulatory Cerebrovascular disease	Circulatory Heart failure	Respiratory Influenza & pneumonia

# Mr HG

- 60 year old man with hypertension (on treatment) and high cholesterol (on treatment)
- heavy exertion lifting things into a boat and developed chest pain

ROYAL NORTH SHORE

Jun. 06, '00

10:33

#1/2

#1

May. 22, '00

14:44

D4

15 f/s

512/8

4.5 inch

F. LAO 31 CRA 0

75kV 980mA 6.0ms

SA12 L-225 W5371

27 / 72  
CD-R/PROG.

ROYAL NORTH SHORE

Jun. 06, '00

10:36

#2/2

#13

May. 22, '00

15:06

DA

15 f/s

512/8

4.5inch

F LAO 31 CRA 0

82kV 890mA 6.0ms

3420 L347 W5354

40 / 83  
CD-R / PROC.



# Risk factors you can not change

- Age – Men aged 45 years or older and women 55 years or older
- Family history – siblings, parents, grandparents developing CVD before 60yrs of age for male relatives and 65yrs for female relatives
- Gender –women develop heart disease at an older age – 4 times as many die from CVD than from breast cancer

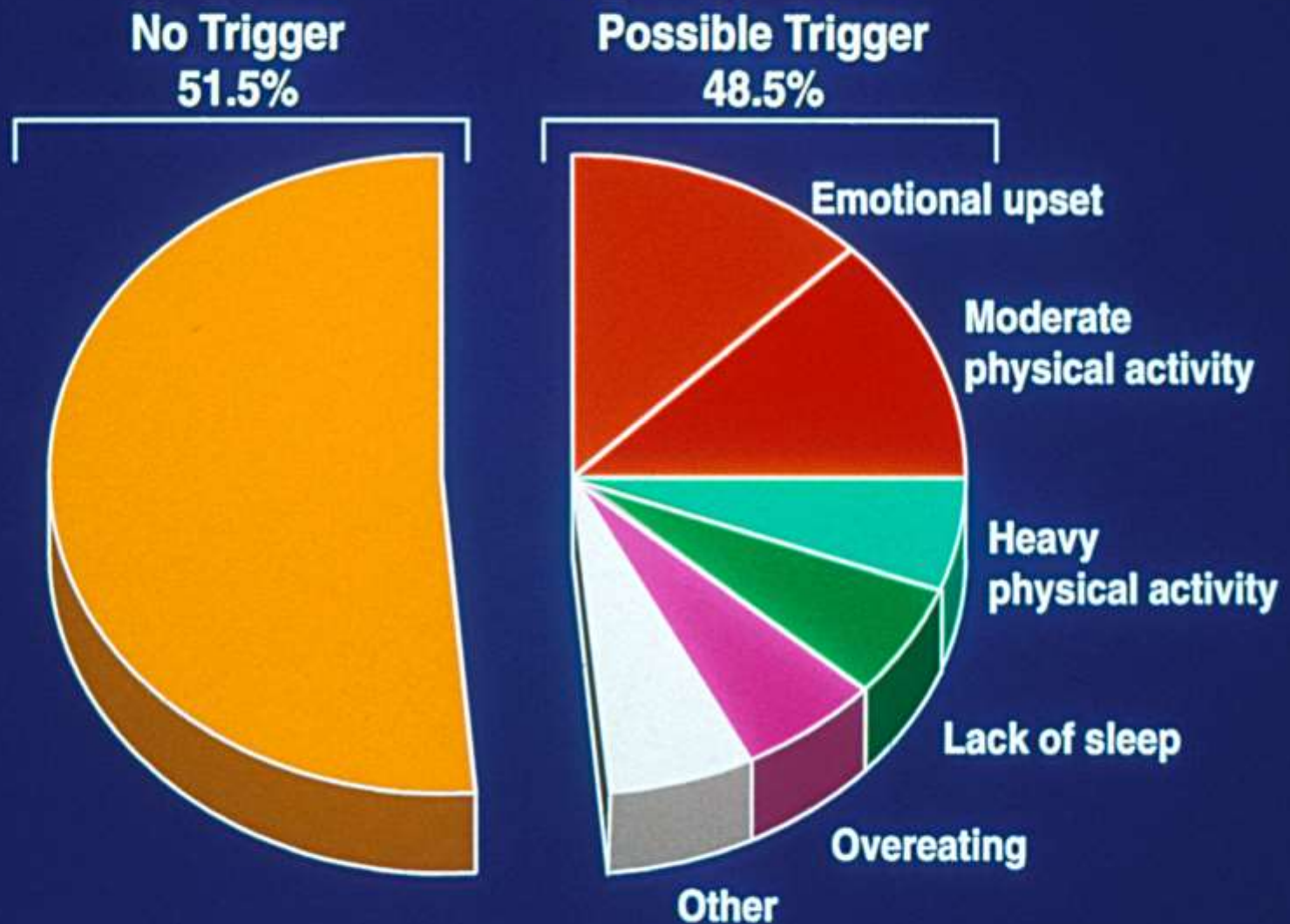


# Risk factors you can change

- Smoking
- High cholesterol - narrow arteries
- High blood pressure - damage to arteries
- Diabetes
- Physical inactivity
- Overweight/obesity – 63% adults
- Stress, depression and social isolation
- Inadequate sleep

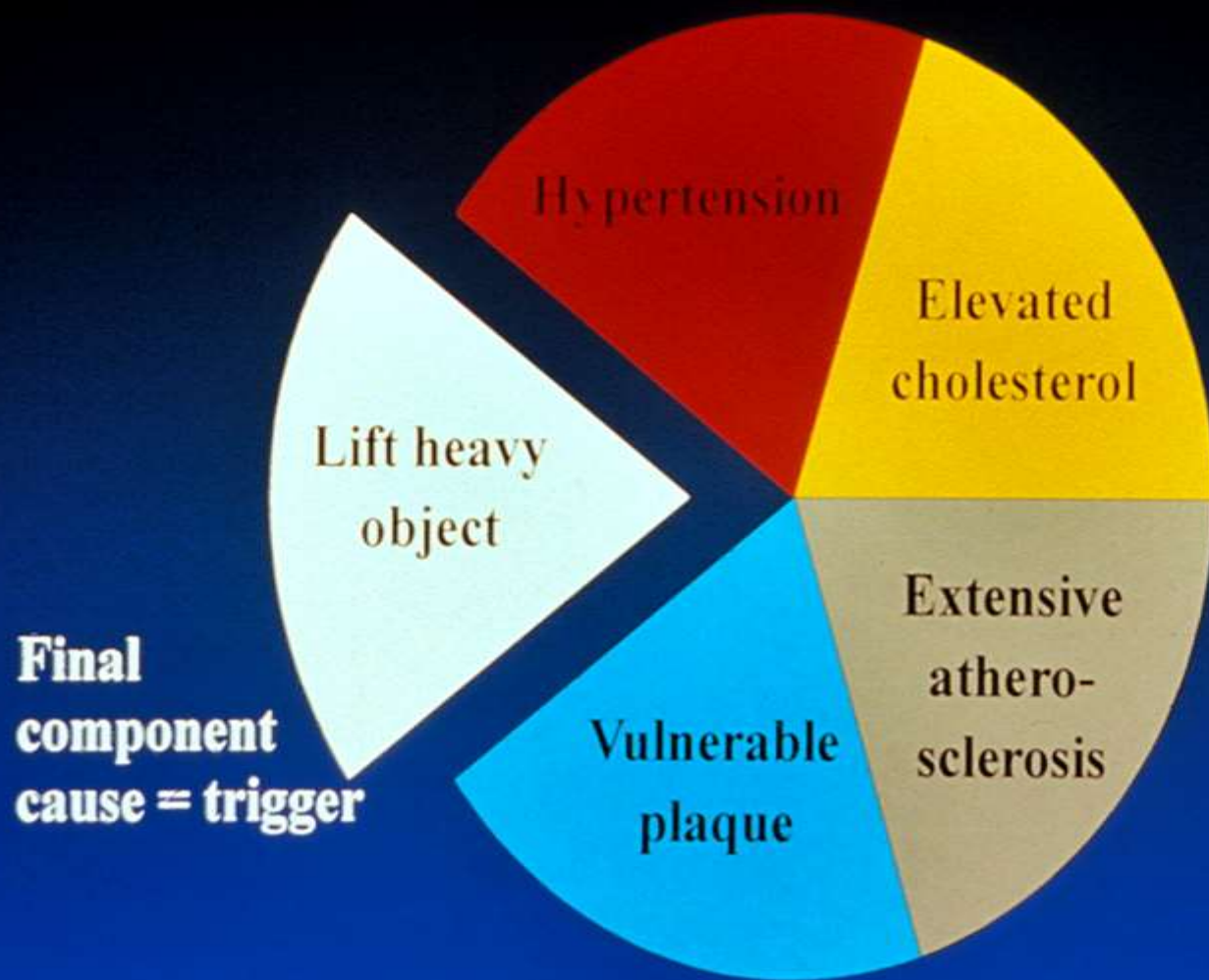
- Why did the heart attack occur in Mr HG at this particular time?
- Could it have been prevented?

# Possible Triggers of Myocardial Infarction: The MILIS Study (N = 849)



MILIS = Multicenter Investigation of Limitation of Infarct Size.  
Tofler GH et al. *Am J Cardiol.* 1990;66:22-27.

# Acute Myocardial Infarction



## TARP Study - Activities (triggers) include:

- Heavy physical exertion (greater than normal activity)
- Emotional stress – anxiety and anger
- Heavy and/or fatty meal consumption
- Respiratory infection (flu, cold etc.) Infections can cause an inflammatory response

# Prevention of heart attack at times of increased risk following a trigger = Triggered Acute Risk Prevention (TARP)

- Long term general preventive therapy
- Long term trigger-specific preventive therapy
- Ignore added risk of the trigger in low-risk person since any added risk is so low
- Modify or avoid the trigger
- Medication to break the link between the trigger and the heart attack

# TARP Study Medications

## Aspirin 100mg

The triggers studied can increase platelet activity that could contribute towards a heart attack

Aspirin lowers platelet stickiness

## Propranolol 10mg

A beta-blocker drug which works mainly by reducing heart rate and blood pressure

# Importance of TARP Study

- Heart disease remains a major preventable cause of death and disability despite improved treatments
- A link has been identified between the triggers mentioned and heart attacks
- Providing cardiac protection during these events has until now not been attempted
- Eventually, this strategy could be a helpful addition to the usual daily medications that people take

The TARP Study has been approved by:

The Northern Sydney Local Health District Human Research Ethics Committee  
Study No. 0603-056M