



**Blood Pressure**

**Acre Surgery**

**Diviash Thakrar**

# Why Are We Doing This?

1. Improve education for patients within the practice
2. Allow us use this for general health promotion
3. Raise money for charity

# High Blood Pressure

- What does it all mean?
- Why bother monitoring or treating?
- Monitoring – investigations .
- Targets for BP treatment.
- Interventions.
- 24 monitoring & home monitoring.
- Practical issues
- Summary.

# High Blood Pressure

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# What Do Figures Mean?

140

Systolic (heart contracts)

-----mmHG

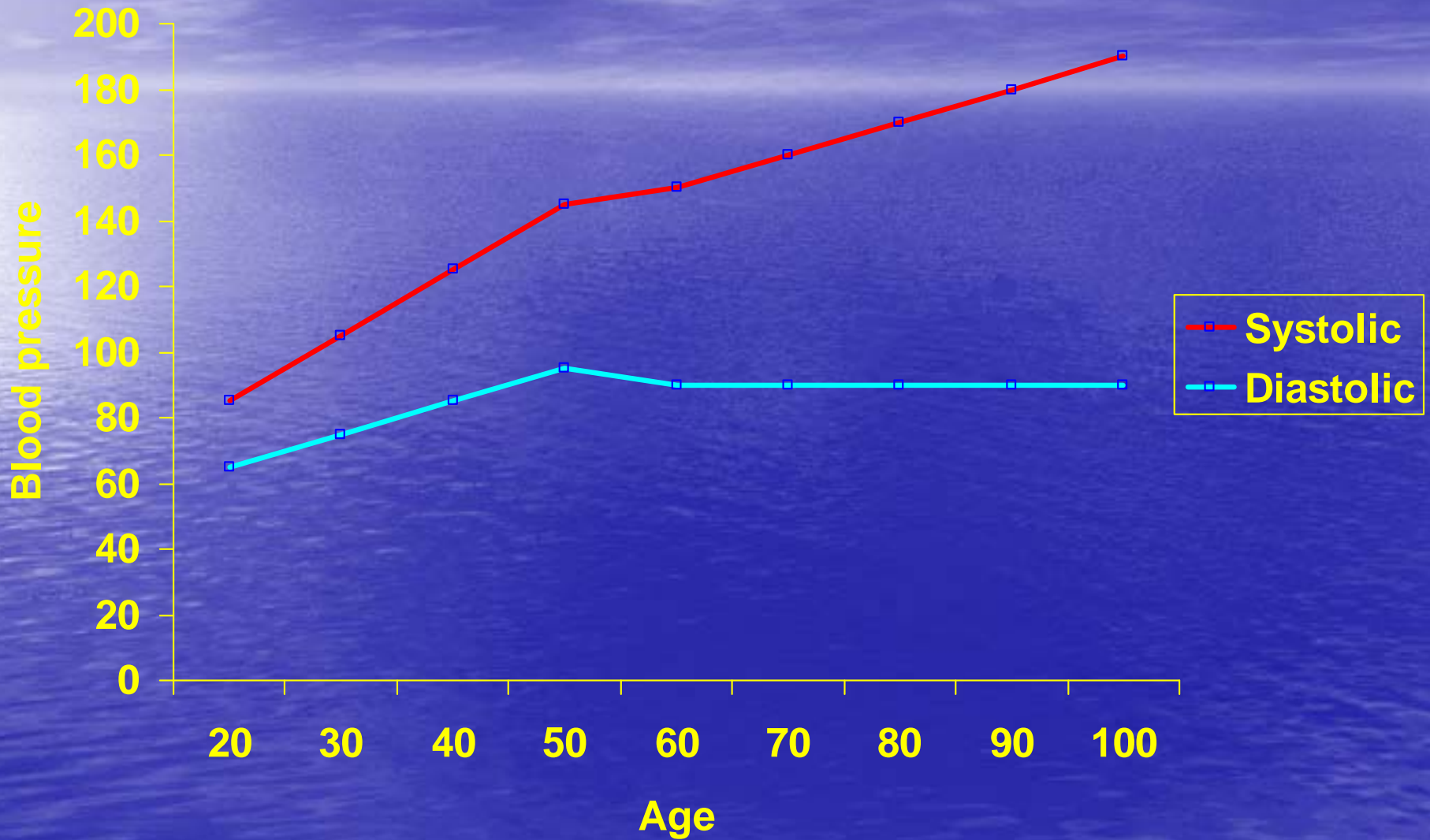
80

Diastolic ( heart relaxes)

# What Does Hypertension Mean?

- The heart is a pump
- We are measuring pressures at contraction & relaxation
- Hypertension is when the pressures used to pump round the body are raised

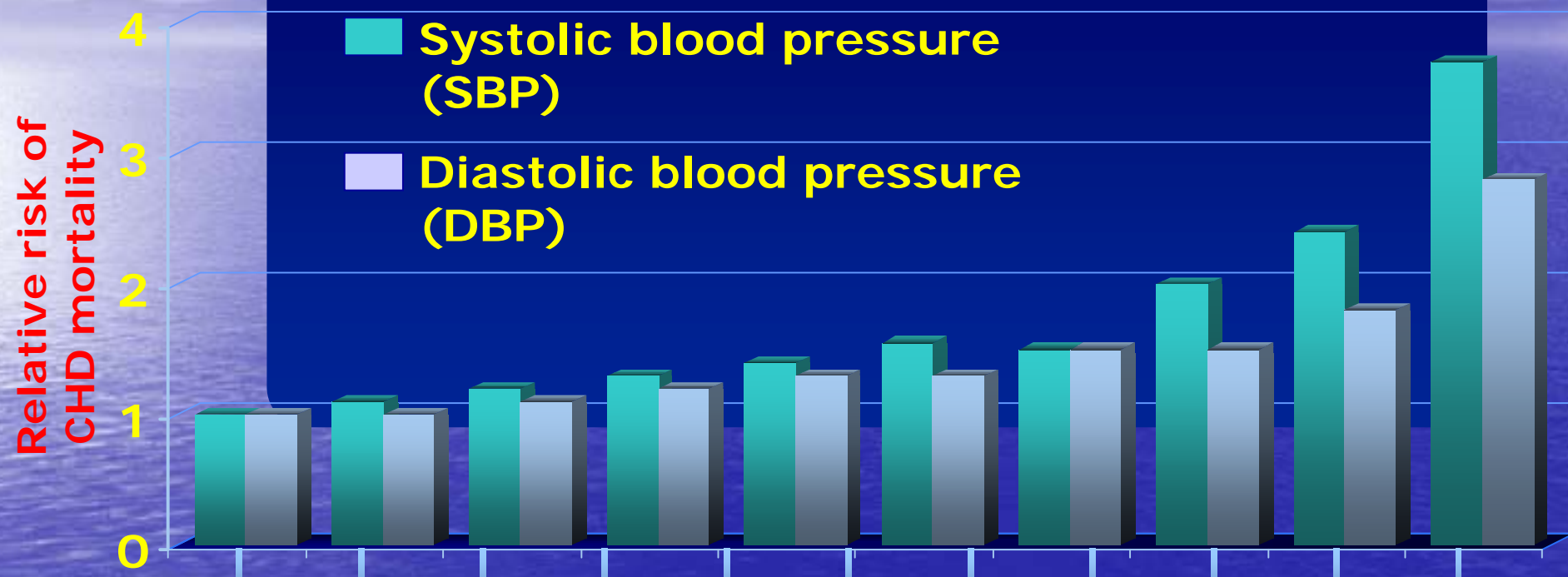
# Blood pressure variation with Age



# High Blood Pressure

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# Risk of CHD Death According to SBP and DBP in MRFIT



SBP (mmHg)  
DBP (mmHg)

<112 112- 118- 121- 125- 129- 132- 137- 142- ≥151  
 <71 71- 76- 79- 81- 84- 86- 89- 92- ≥98

# Why Treat Increased Blood Pressure?

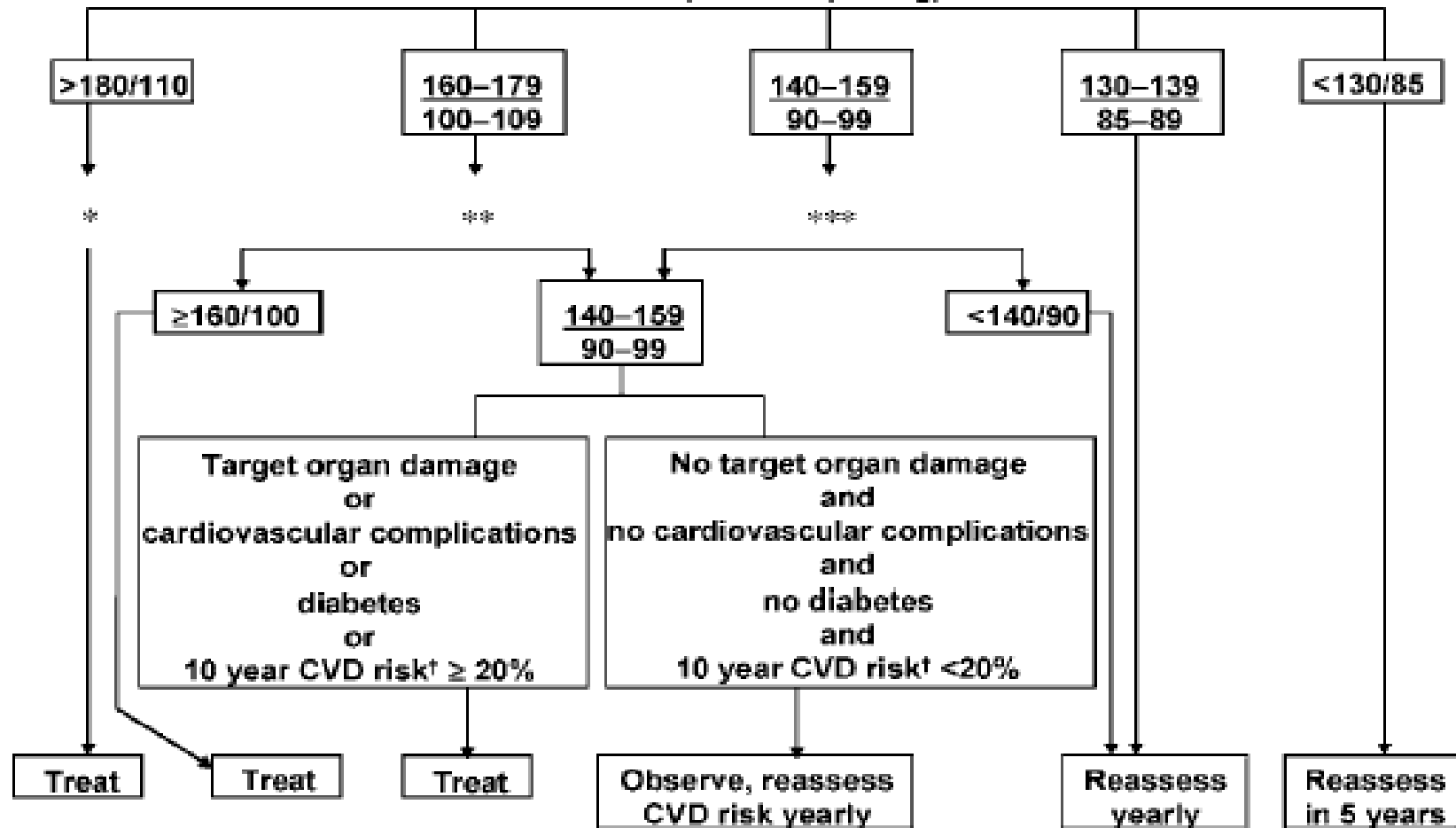
- 2 x risk of heart attack, 3x risk of stroke
- If treated risk is lowered
- 1 in 4 of adult population have high blood pressure
- Higher in elderly & Afrocarabien population

# Causes of Blood Pressure

- 90% no cause
- Others
  - Kidney related
  - Hormonal
  - Adrenal problems

**THRESHOLDS FOR INTERVENTION**

Initial blood pressure (mmHg)



\* Unless malignant phase of hypertensive emergency confirm over 1-2 weeks then treat  
 \*\* If cardiovascular complications, target organ damage or diabetes is present, confirm over 3-4 weeks then treat; if absent re-measure weekly and treat if blood pressure persists at these levels over 4-12 weeks  
 \*\*\* If cardiovascular complications, target organ damage, or diabetes is present, confirm over 12 weeks then treat; if absent re-measure monthly and treat if these levels are maintained and if estimated 10 year CVD risk is ≥20%  
 † Assessed with CVD risk chart

# Threshold For Intervention

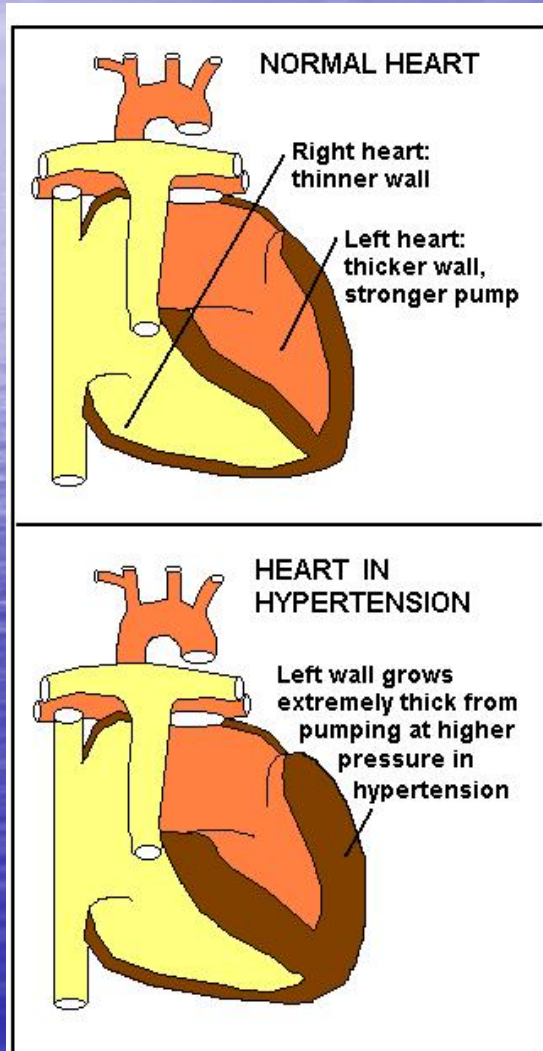
Blood Pres (mm Hg)	
>160/100	Treat
140-159/90-99	Assess risk factors
<140/90	No intervention

## Risk factor assessment

- Target organ damage
- Cardiovascular complications
- 10 year CVD risk >20%

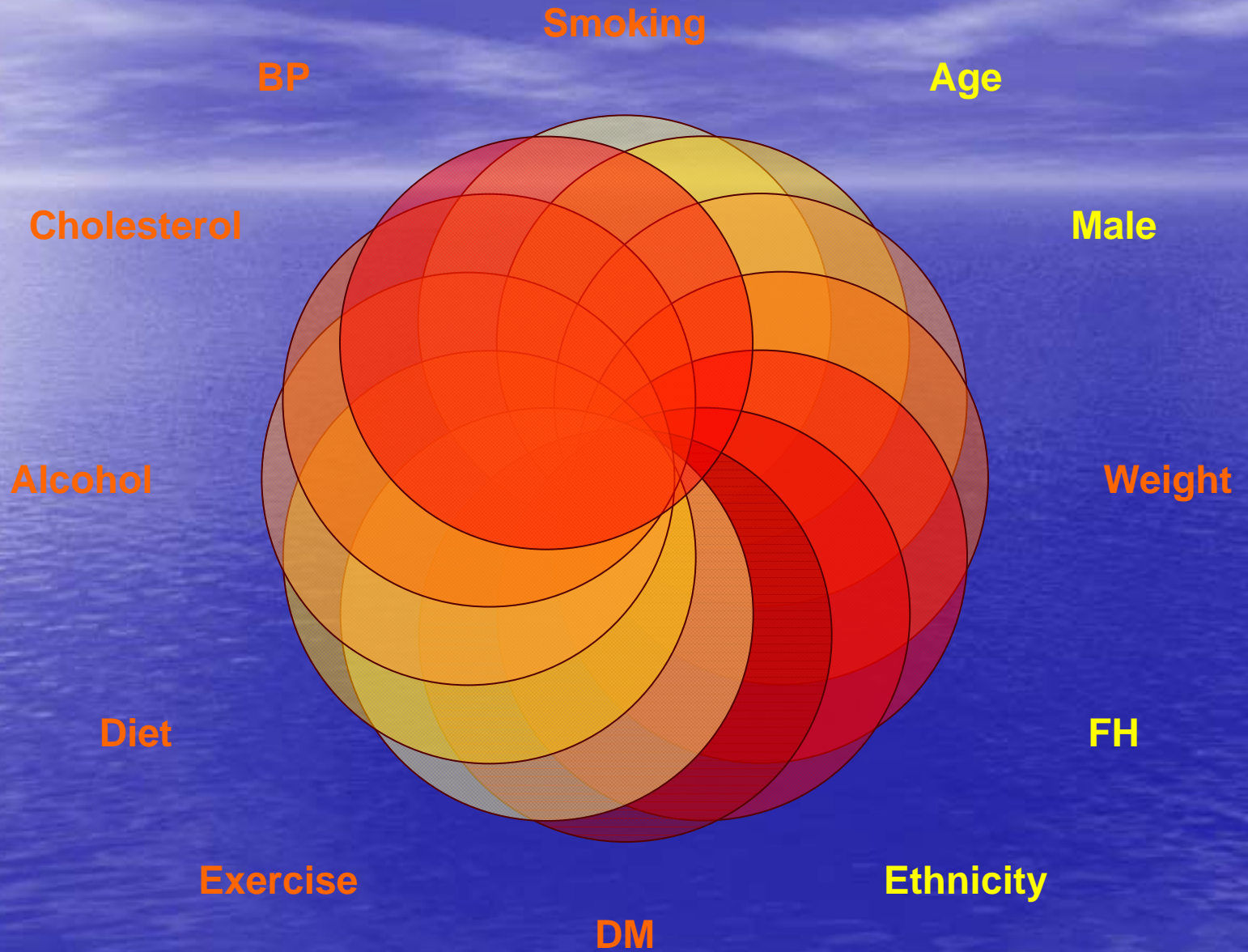
Readings confirmed over at least 2 or more visits

# What Does Blood Pressure Do to Body?



- No symptoms
- Side effects of medicine
- I am happy where I am
- Damages heart , blood vessels , eyes , kidneys , brain

# RISK FACTORS



# Risk Factors

- Modifiable

- Bp
- Smoking
- Diet / exercise/ wt
- Alcohol intake
- Diabetic control
- Cholesterol

- Non- modifiable

- Age
- Sex
- FH
- Ethnicity

Risk assessment

# High Blood Pressure

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# Reason for Testing

1. Look for a treatable cause
  - Frequency at minimum once a year
2. Identify damage to body
3. Monitor other risk factors for heart disease

# Tests

- **Blood**
- Glucose – diabetes
- Kidney tests – monitor damage & medication & cause
- Liver tests – SE of cholesterol medication
- Cholesterol
- **ECG** – damage to the heart
- **Urine** – blood & protein – indicating possible kidney problems ,glucose for diabetes
- **Frequency** – at minimum once a year for bloods and urine . ECG one off



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# Threshold For Intervention

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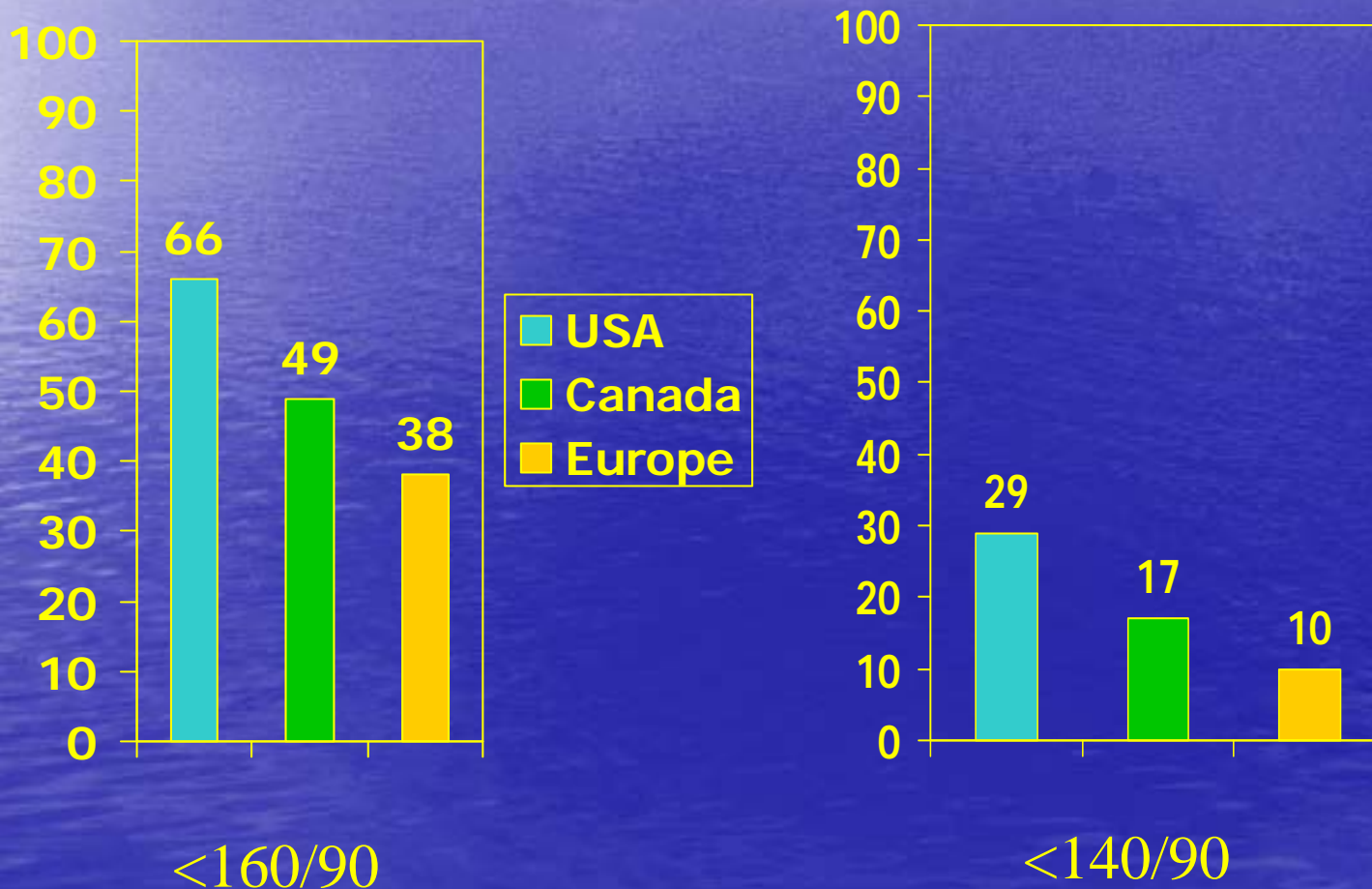
If established heart / stroke related damage treat BP to target

# Suggested Target BP

Clinic BP (mmHg)

	No diabetes	Diabetes
Optimal treated BP	<140/85	<130/80
Audit standard	<150/80	<140/80

# Controlled Hypertension 35-64 Year Olds



# Get Own Figure S

- 1 no pts – male female age distribution
- 2 change in pts hitting target over time
- No of medications pts take

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Loose weight

2.5/1.5 mmHg loss for each kg lost

Stop Smoking

Systolic reduced 2-10mmHg

Exercise regularly

For You?

Alcohol

Low salt intake

Eat Healthily

5-6 grams a day

Can reduce systolic Up to 10mmHg

# Add

- Diet sheet – low fat , higher fruit & vegetable intake & low salt
- Caffeine no more than 4 cups a day one more dial
- Alcohol 14/21
- Trial 2/12
- Then add on accordingly
- Interventions on wt reduction etc talk in itself



## Smoking Cessation

- 50% risk reduction of 2<sup>nd</sup> MI
- Various forms of NRT- via surgery or pharmacist
- Smoking cessation clinics

Skull with burning Cigarette  
Vincent van Gogh, (1886)

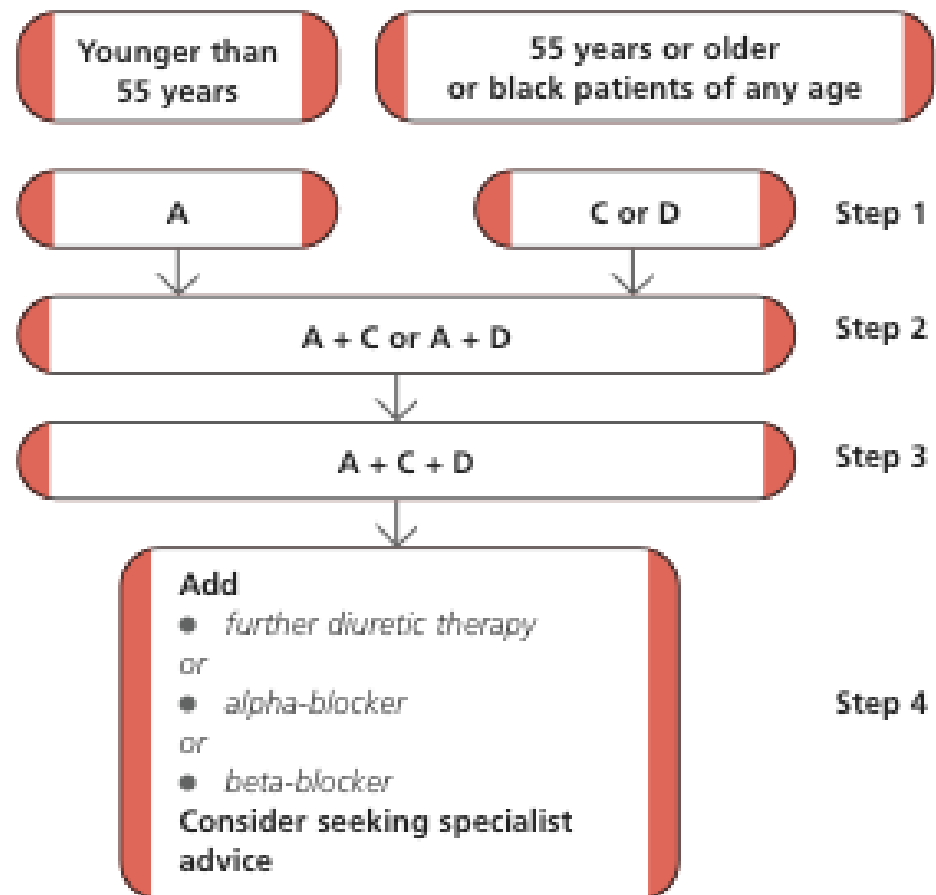
# Choosing drugs for patients newly diagnosed with hypertension

## Abbreviations:

A = ACE inhibitor  
(consider angiotensin-II receptor antagonist if ACE intolerant)  
C = calcium-channel blocker  
D = thiazide-type diuretic

Black patients are those of African or Caribbean descent, and not mixed-race, Asian or Chinese patients

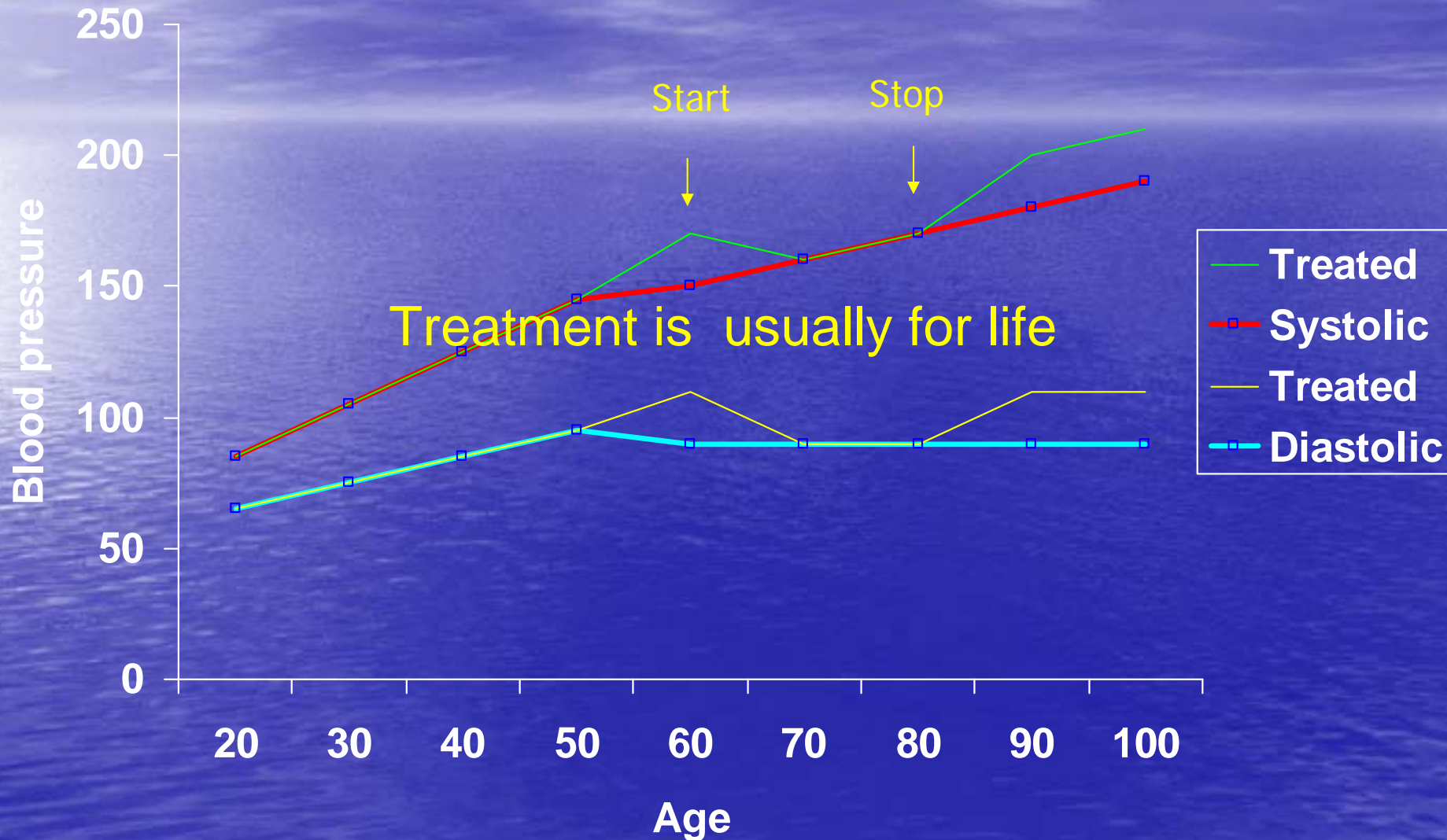
**Beta-blockers** are not a preferred initial therapy for hypertension but are an alternative to A in patients younger than 55 years in whom A is not tolerated or is contraindicated (including women of childbearing potential)



# Drugs

- 1drug treatment tailored to pts
- Need to monitor at least 2 months after change in dose to assess affect on bp
- May monitor earlier for SE
- More than one drug needed for most to hit target
- A ACEi or A2
- B beta blocker
- C calcium antagonist
- D diuretic
- Others
- SE specific to each
- Dizziness
- Bendrofluazide 2.5mg not equal to 300 mg losarten

# How long is treatment for?



# Other Associated Drugs

- Aspirin – thins blood
- Cholesterol drugs – lowers risk

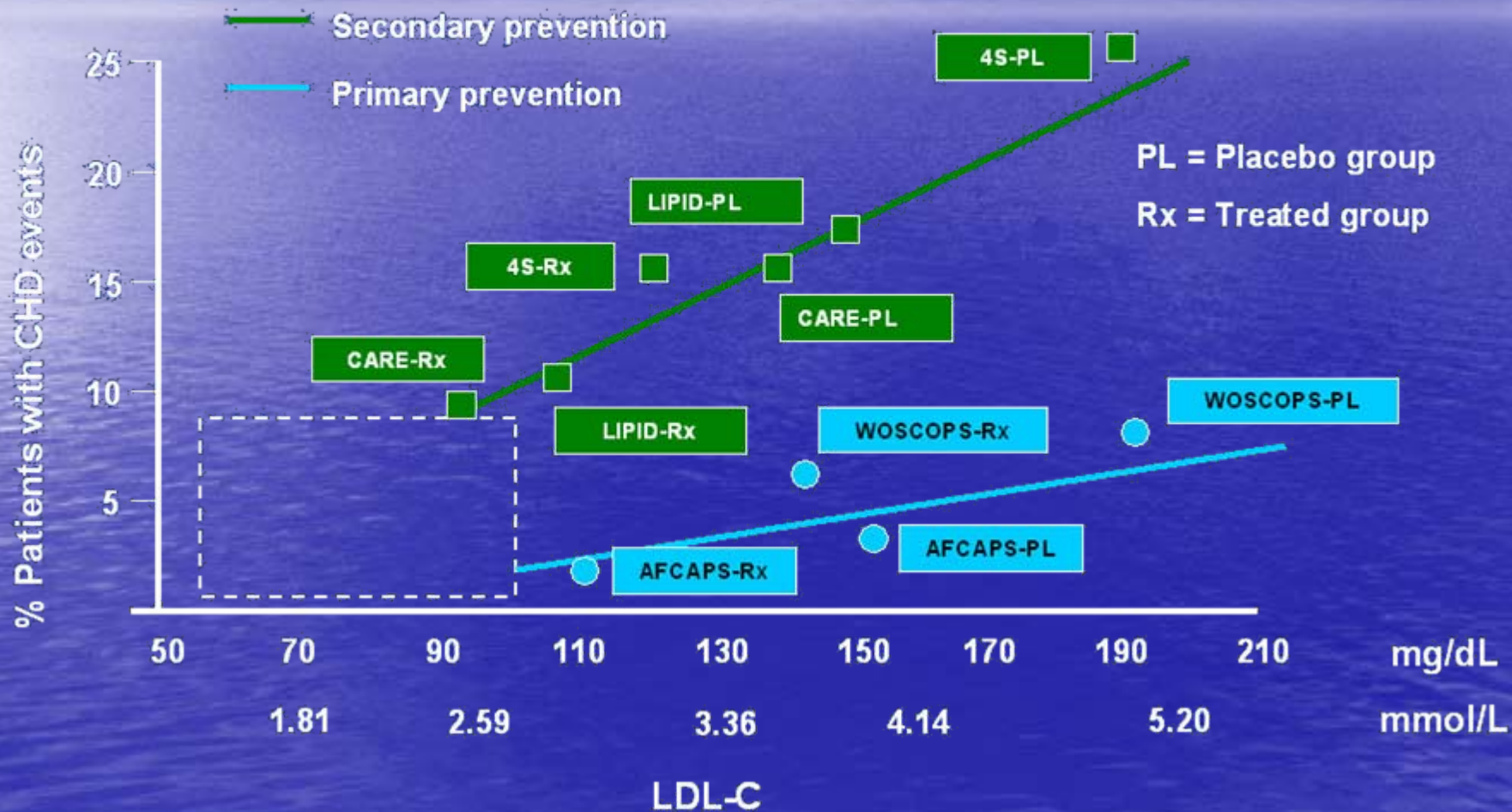
# Aspirin

- All secondary prevention
- Primary prevention: 75mg in controlled hypertensive patients aged over 50 or end organ damage or diabetes , or CVD risk  $\geq 20\%$

# Cholesterol targets

- All secondary prevention
- Primary prevention: statin therapy indicated when 10 year CVD risk is  $\geq 20\%$
- Targets -Cholesterol  $< 4$ , LDL  $< 2$
- Audit criteria  $< 5$ ,  $< 3$

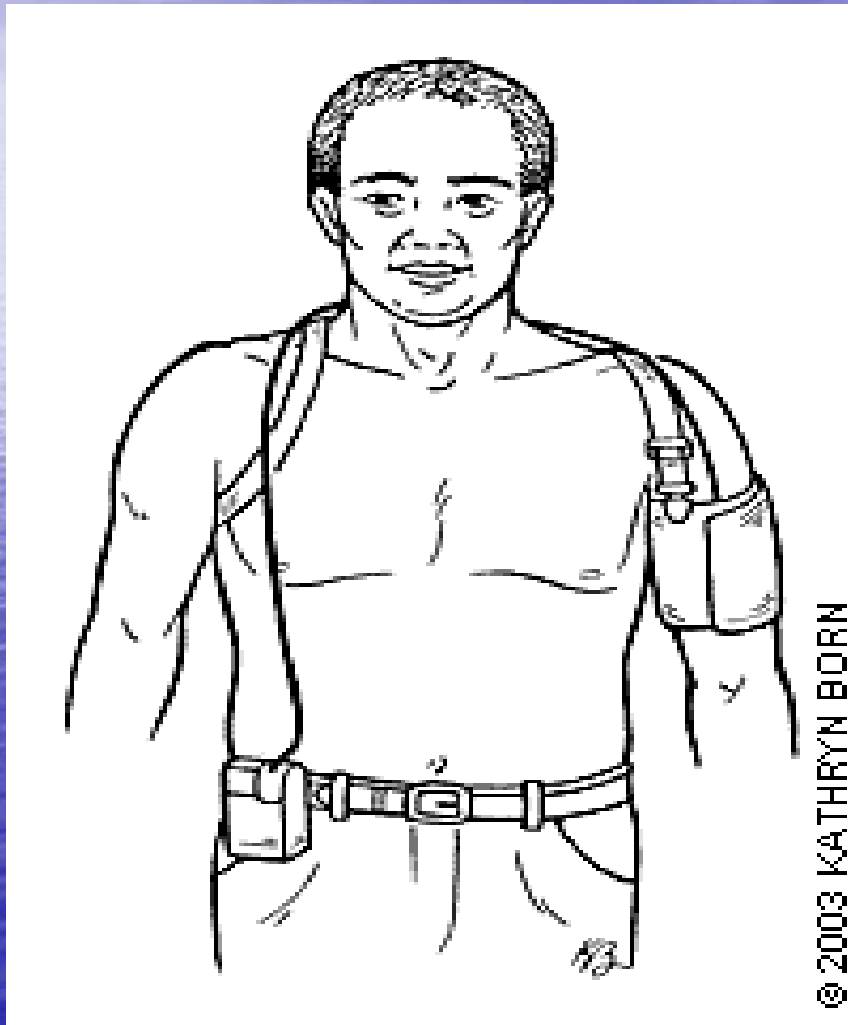
# Coronary Heart Disease events in primary and secondary prevention trials



# High Blood Pressure

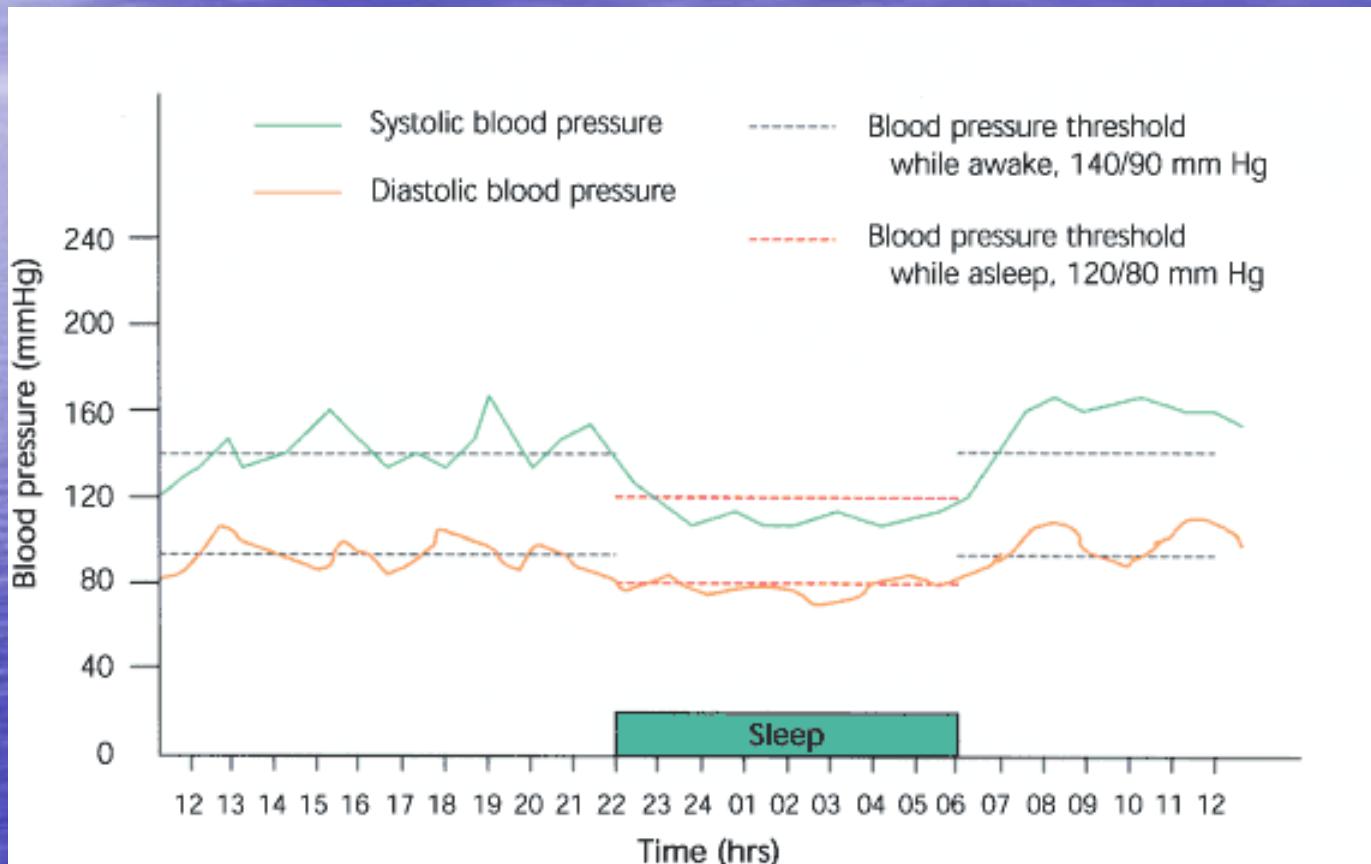
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# Alternative Monitor



- Some may 24 hour monitor to help us make a decision about treatment
- Home monitors
  - Use BHS approved one
  - Take 2 readings a day for 7 days
  - [www.bhsoc.org](http://www.bhsoc.org)

## Normal Sleeping Pattern



Sys < 17%

Dia < 13%

# Team

Reception/ Admin

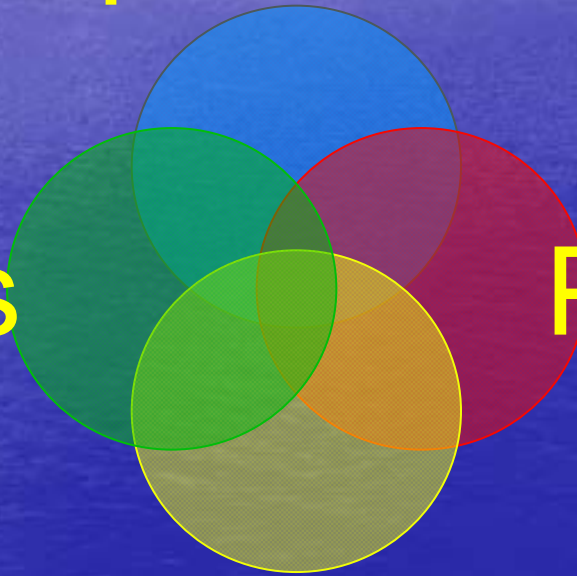
Doctors

Patients

Nurses

Pharmacist/midwife

/change format



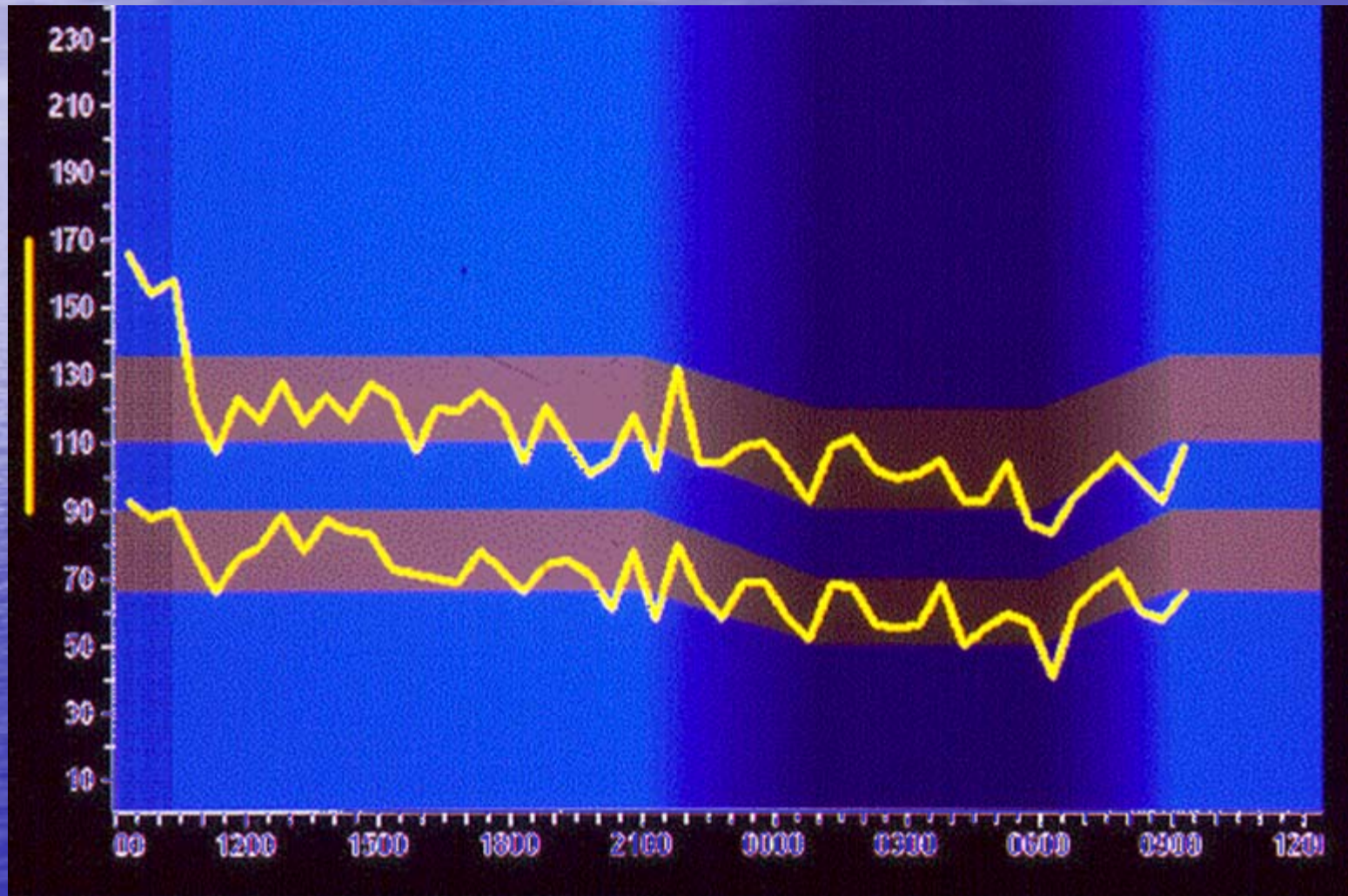
# Practical Pointers

- BP although asymptomatic has important implications on health
- Help us by attending regular checks with nurses & doctors
- Come for blood tests when requested
- Exercise / diet / smoking help your self
- We can also help
- Report problems to us
- Don't worry



**Questions?**

## White Coat Hypertension



# To do

- When to do BP initially
- Causes
- Home readings
- Pit falls
  - Cuff size
  - Initial diagnosis several readings
  - Arm used

Drug conversion dose

Groups