

# **An Overview of Secondary Prevention**

Life After Stroke 26.09.2017

# Stroke Risk Factors

## **Non modifiable**

- Gender
- Age
- Previous History
- Atrial Fibrillation

## **Modifiable**

- Uncontrolled Diabetes
- Alcohol excess
- High Blood Pressure
- Stress
- Unhealthy diet
- Raised cholesterol
- Excess weight
- Smoking

# Type of Stroke

## Ischaemic – Clot

- Atrial Fibrillation
- Diabetes
- High blood pressure
- Raised cholesterol
- Inactive/physical exercise
- Over weight
- Alcohol
- Smoking
- Poor Diet

## Haemorrhagic – Bleed

- High blood pressure
- Smoking
- Poor diet
- Alcohol

# Atrial Fibrillation

# Atrial Fibrillation

## Diagnosis

Irregular heart beat  
(Random and uneven)

## Investigations

ECG  
5 day tape monitor  
Pulse check

## Facts

1.2 million people with AF in the UK  
1 in every 5 strokes has AF as a risk factor

## Treatment

- AF - a quarter of eligible patients don't receive anticoagulation
- Receive counselling – risk vs benefits
- Doac - Direct oral anticoagulation

# Blood Pressure

# Blood Pressure

## Current Stroke Guidelines

- BP 130 / 80 mmhg  
consistent clinical reading
- BP 140 -150 /80 mhg  
severe bilateral carotid artery  
stenosis

## How to manage it ?

Gp surgery  
Home blood pressure monitoring

## Factors to consider

- Medication Compliance
- Diet
- Salt intake
- Smoking
- Alcohol
- Stress

## Fact

High blood pressure is a contribution to around half the strokes in the country

# Diabetes



# What is HbA1c?

HbA1c refers to glycated haemoglobin

It develops when haemoglobin, a protein within red blood cells that carries oxygen throughout your body joins with glucose in the blood. This becomes 'glycated'

# Diabetes

## HbA1c Range

Normal 38mmol/mol

Diabetes 48mmol/mol

## Investigation

Blood test – look back over 8/12 weeks.

## How to manage it ?

Gp surgery - diabetic review

Independent bm check

Medication management

Dietary control

## Factors to consider

- Medication compliance
- Poor eating habits
- Low HbA1c
- Raised HbA1c

## Fact

- Diabetes almost doubles the risk of stroke
- Persistent elevated glucose levels increase the likelihood of arteriosclerosis/blocked arteries

<b>HbA1c (%)</b>	<b>HbA1c (mmol/mol)</b>	<b>Ave. Blood Glucose (mmol/L)</b>
<b>13</b>	<b>119</b>	18 mmol/L
<b>12</b>	<b>108</b>	17 mmol/L
<b>11</b>	<b>97</b>	15 mmol/L
<b>10</b>	<b>86</b>	13 mmol/L
<b>9</b>	<b>75</b>	12 mmol/L
<b>8</b>	<b>64</b>	10 mmol/L
<b>7</b>	<b>53</b>	8 mmol/L
<b>6</b>	<b>42</b>	7 mmol/L
<b>5</b>	<b>31</b>	5 mmol/L

# Cholesterol

# Understanding good and bad cholesterol

When cholesterol and proteins combine they are called lipoproteins.

## Two main types

- High-density lipoproteins (HDL) known as good cholesterol
- Non-high density lipoprotein (non-HDL) known as bad cholesterol.



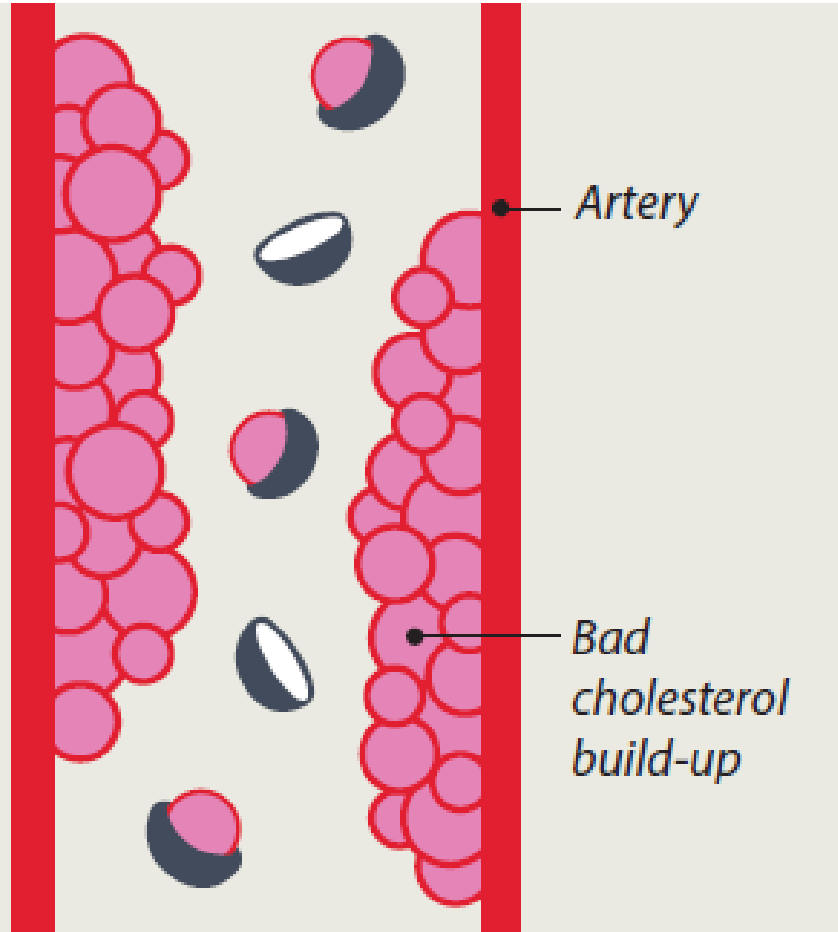
### **Good cholesterol**

*HDL (High-density lipoproteins) carries bad cholesterol to the liver for disposal and stops it building up in the arteries.*



### **Bad cholesterol**

*Non-HDL (non-high density lipoprotein) sticks to artery walls and causes a build-up which narrows the arteries.*



# Cholesterol

Total Cholesterol

3.5mmols

Investigation

Blood test

How to manage it ?

Gp surgery - bloods repeated after 3mths

Medication - ischaemic stroke

Dietary education – good fats vs bad fats

Factors to consider

- Medication compliance
- Poor eating habits

Fact

- Statins can reduce total cholesterol levels by more than 40%

# Management

## Secondary Prevention

- Antiplatelet therapy
- Blood pressure 130/80
- HbA1c 38
- HbA1c diabetic 48
- Total Cholesterol 3.5 mmols
- Alcohol less than 14 units per week
- Stopped smoking – with support
- Healthy eating – 5 Fruit and veg
- AF – anticoagulated

## Investigations

5 day tape

Echo

Carotid dopplers

Blood Pressure Monitoring

Blood test

## Identifying risk factors and management

- Stroke Unit
- ESD assessment
- 2 week GP review
- Independently managing
- Hypertension Clinic GP
- Diabetic Clinic GP
- Stroke Follow up appt 6/8 weeks
- Stroke Association 6mth review/other source 6mth review

- 1. Medication compliance**
- 2. Lifestyle changes**
- 3. Engagement for life**



Who is responsible for secondary prevention delivery ?