



# Cardiac Surgery Issues For GPs

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# Objectives

- Pre-operative pathway
- Surgery specific issues – CABG, valve replacements, AF surgery
- Specific post-operative problems
- New developments

# Pre-operative Pathway

- W/L – routine/soon. Occasional direct admission to ward
- Pre-op investigations ordered – usually carotid dopplers, CT scans
- Allocated date according to clinical priority and 18-week ruling
- Normally 2 fixed lists/week plus additional cross-cover lists (20-25 cases)

# Pre-operative Pathway

## **Deteriorating patient?**

- If accepted for surgery, contact surgeon to expedite

## **If in extremis?**

- Admit via cardiologist or medical ward
- Low threshold if valve disease – could have decompensated

# Pre-operative Pathway

## How can the GP help?

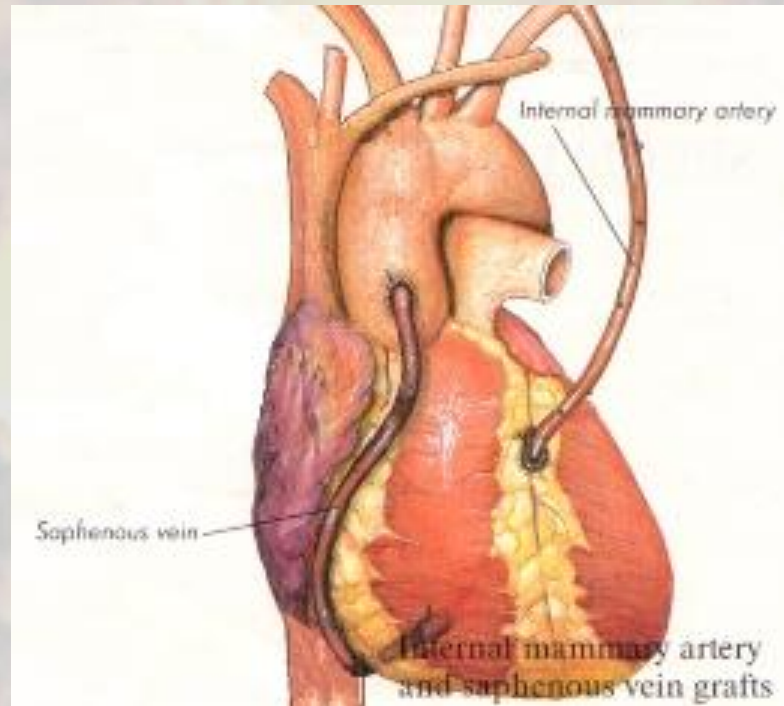
- **Obesity** – higher risk of cardio-respiratory complications, wound infection and thromboembolism. OS apnoea
- **Smoking** – 6-fold increase in respiratory complications plus wound infection. Benefit if > 2 weeks cessation. 6 weeks ideal
- **Cardio-vascular fitness**
- **Alcohol/drug misuse** - >50 units/wk need investigation. High risk of post-op problems
- **Dental work**
- **Septic focus** – UTI, LRTI

# Pre-operative Pathway

## Cancellations – patient initiated

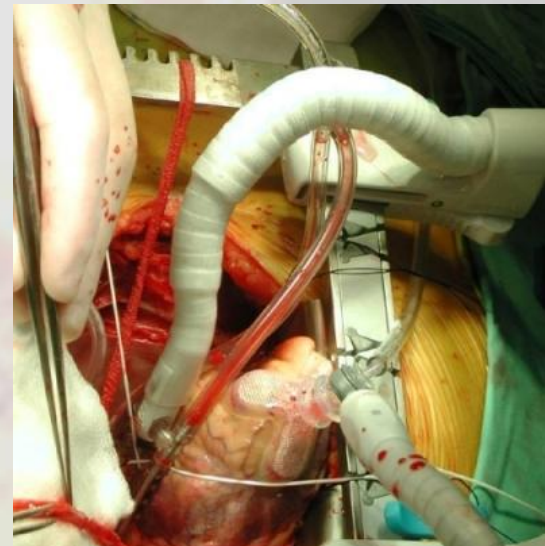
- Patient unwell – pyrexia, productive cough, diarrhoea
- Inadequately fasted
- Unfit for surgery – poor pre-op evaluation
- Surgery not best option

# Coronary Bypass Surgery



# Surgery Specific Issues - CABG

- 5 surgeons - 3 on-pump CABG; 2 off-pump
- Total arterial off-pump to LIMA + SVG on pump
- Controversial



# Surgery Specific Issues - CABG

## Discharge Medication (surgeon specific)

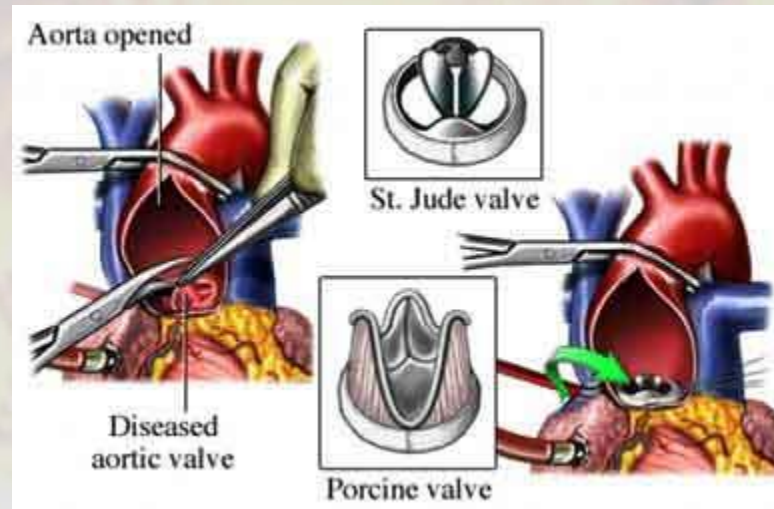
1. **Antiplatelets** – aspirin 75mg – 150 mg. Some continue with clopidogrel
2. **Beta- blockers** – usually half pre-op dose
3. **Statins**
4. **Diuretics** – usually if > pre-op weight. Stop once achieved and good LV. Continue if for heart failure
5. **ACE or Ca antagonists** – if hypertension and renal function allows

# Surgery Specific Issues - CABG

## At 6 weeks follow-up

- Restart anti-hypertensive medication
- Stop anti-arrhythmics (amiodarone or digoxin)
- Secondary risk factor advice
- Discharge

# Aortic Valve Surgery



# Aortic Valve Surgery

- Mechanical or tissue (stented or stentless) valve or valved conduit for roots
- Patient choice
- Age dependent. Cut off 65-yrs
- All patient need dental 'OK'



# Aortic Valve Surgery

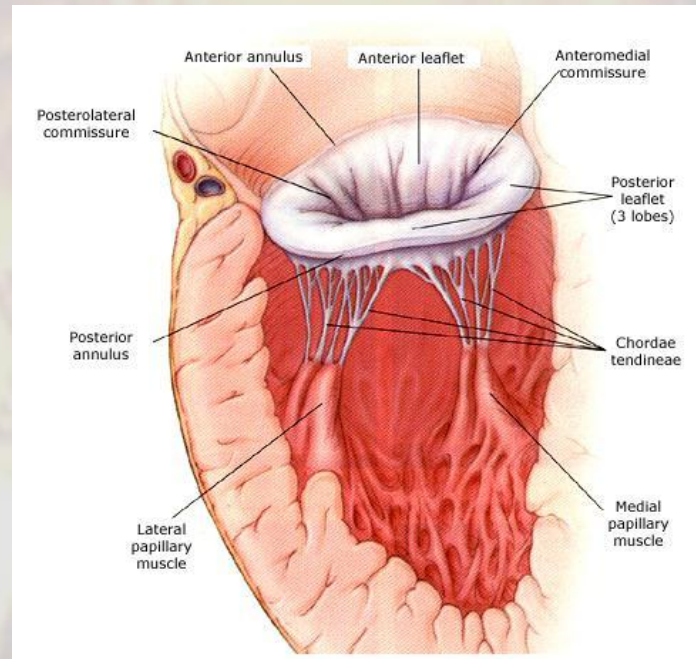
- ‘Open-heart’ surgery on-pump
- Valve sutured into annulus using interrupted or running sutures with or without pledgets



# Aortic Valve Surgery - issues

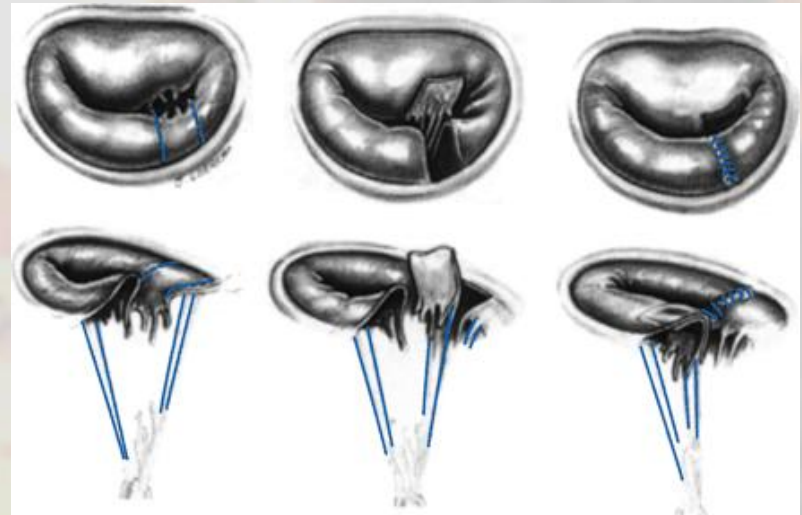
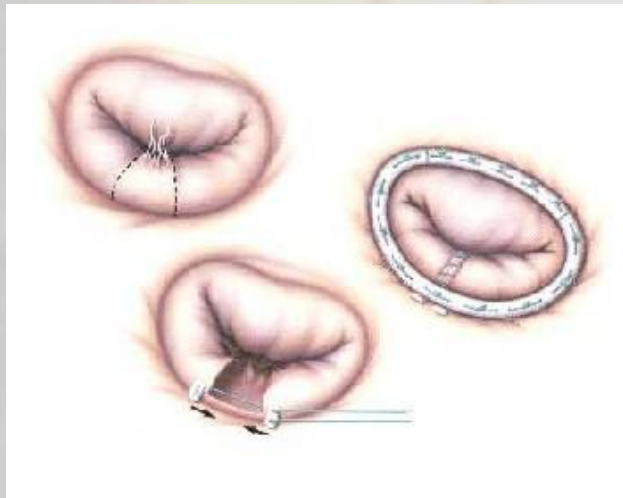
- Mechanical AVR – warfarin for life. Target INR 2.5-3.5
- Tissue AVR – no warfarin. Some for 12 weeks
- Need antibiotic prophylaxis despite NICE guidelines
- Residual murmur as prosthetic valve has a gradient

# Mitral Valve Surgery



# Mitral Valve Surgery

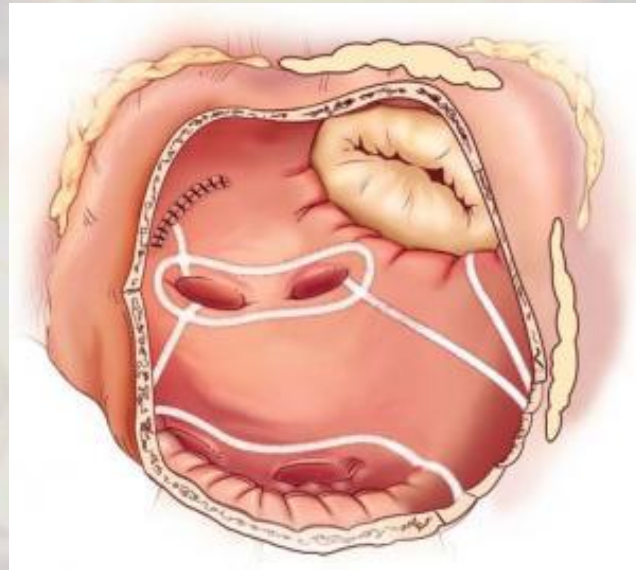
- Repair or replacement
- Replacement with mechanical or tissue valves
- Repair – technically challenging/learning curve
- No dedicated mitral repair surgeon in region but service is developing



# Mitral Valve Repair - issues

- Repairs – some surgeons prefer warfarin
- May require follow-up echos especially if residual MR

# Atrial Fibrillation Surgery

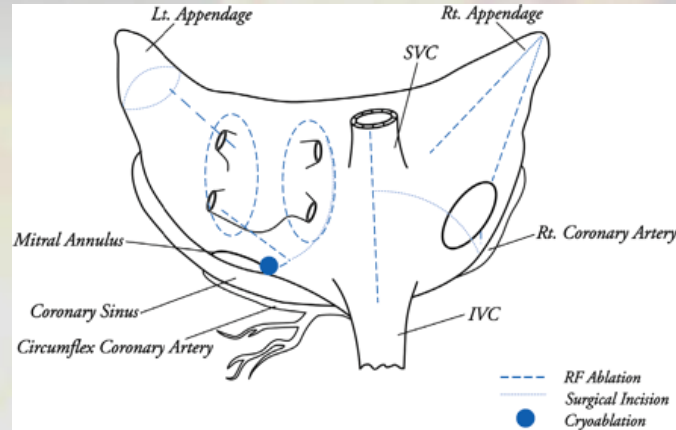


# Atrial Fibrillation Surgery

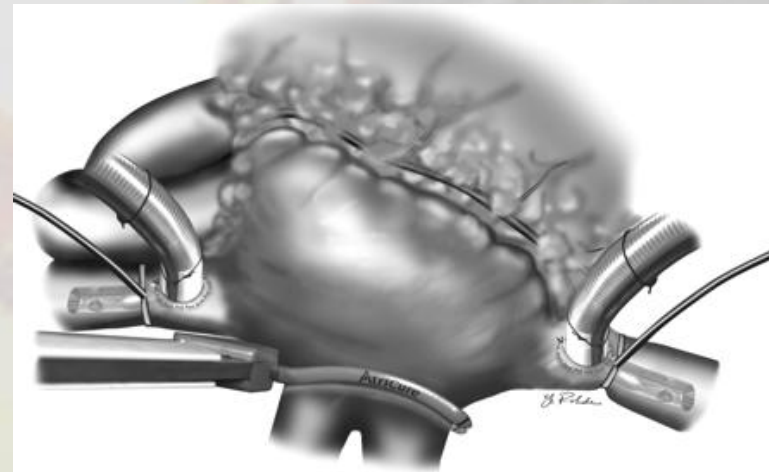
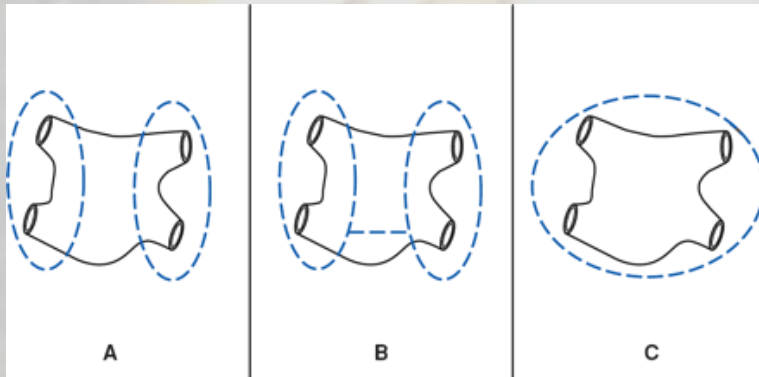
- AF – not a benign arrhythmia
- Lowers life expectancy & increases stroke
- 1% direct NHS budget & 2% indirect
- Surgery aims to create scar lines to interrupt macro-entrant circuits
- Precludes the ability of the atrium to flutter
- Surgical approach depends on duration of AF
- Energy sources – RF, microwave, cryoablation, high energy ultrasound, laser

# Atrial Fibrillation Surgery

## Cox-Maze IV



## Pulmonary vein isolation



# Atrial Fibrillation Surgery - issues

- Discharged on anti-arrhythmics (usually amiodarone) & warfarin
- Continue till sinus rhythm is established
- SR on ECG not enough! Need echo to show left atrial transport. Usually 48 hr-tape beforehand
- May require multiple cardioversions over several months
- Do not stop warfarin!

# Specific Post-op Issues – pleural effusions



- Usually if LIMA harvested & pleura open.
- Either collected blood or raw mammary bed transudate
- Observe if small & patient asymptomatic
- Refer if symptomatic/large. Will need drainage +/- radiological guidance

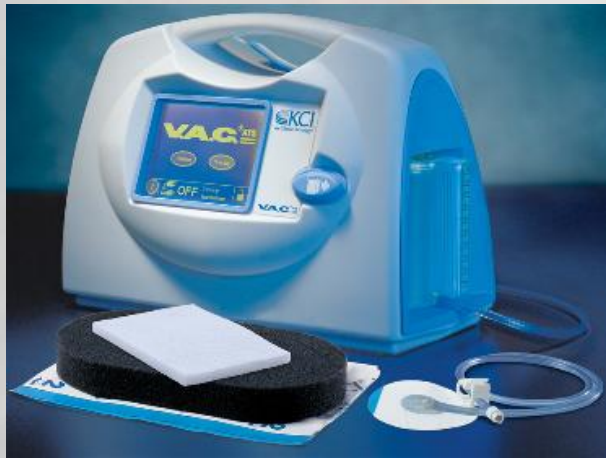
# Specific Post-op Issues – sternal wound



- Mechanical (sterile or infected) dehiscence to painful wire
- Rare < 1%
- Refer! Micro swabs if possible. Usually need IV antibiotics

# Specific Post-op Issues – sternal wound

- VAC pump
- District nurse led



# Specific Post-op Issues – leg wounds

- Usually breakdown at ankle where skin cover poor
- Swab and broad spectrum antibiotics IF infected looking
- Heal by secondary intention

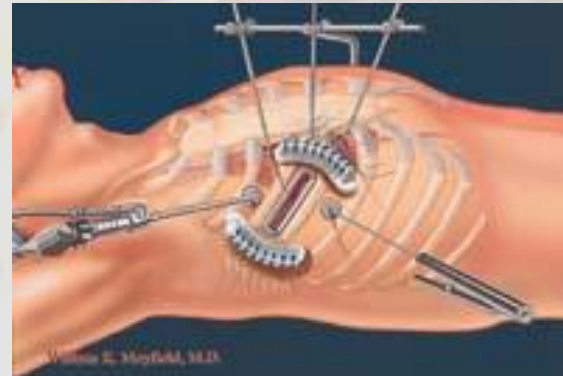


# Specific Post-op Issues – low INR

- Affects mechanical valves
- Mitral more an issue than aortic
- Worry if  $< 2.0$
- Consider admission if  $< 1.8$

# New Developments

- 1-day length of stay
- Endoscopic saphenous vein harvesting
- Endoscopic mitral valve surgery
- GP discharge letters within 24 hrs – standard format





Summary

Questions?