# Surgery for Rheumatic valve disease in an Australian Indigenous population


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# Management

Prevention

Secondary Measures

Surgery

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# Surgical Management

- Options
  - Mitral Balloon Valvuloplasty
  - Surgery
    - Valvotomy (rare)
    - Replacement
    - Repair
  - Concomitant disease
    - Multiple Valves
    - CAG
- Factors
  - Age / Sex
    - Pregnancy / Contact Sport
  - Geography
    - Access to care
    - Specialist / Imaging follow up
    - Surgeon
  - Compliance
    - Cultural, Education

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# What do we know?

- Indigenous Australians
  - Younger Presentation
  - Increased fibrosis / fusion
  - Loss of leaflet height
  - More stenotic lesions ⟶ less likely repairable
- Are IA different?
  - More aggressive disease
  - ? more susceptible
  - Ongoing / Repeated exposure

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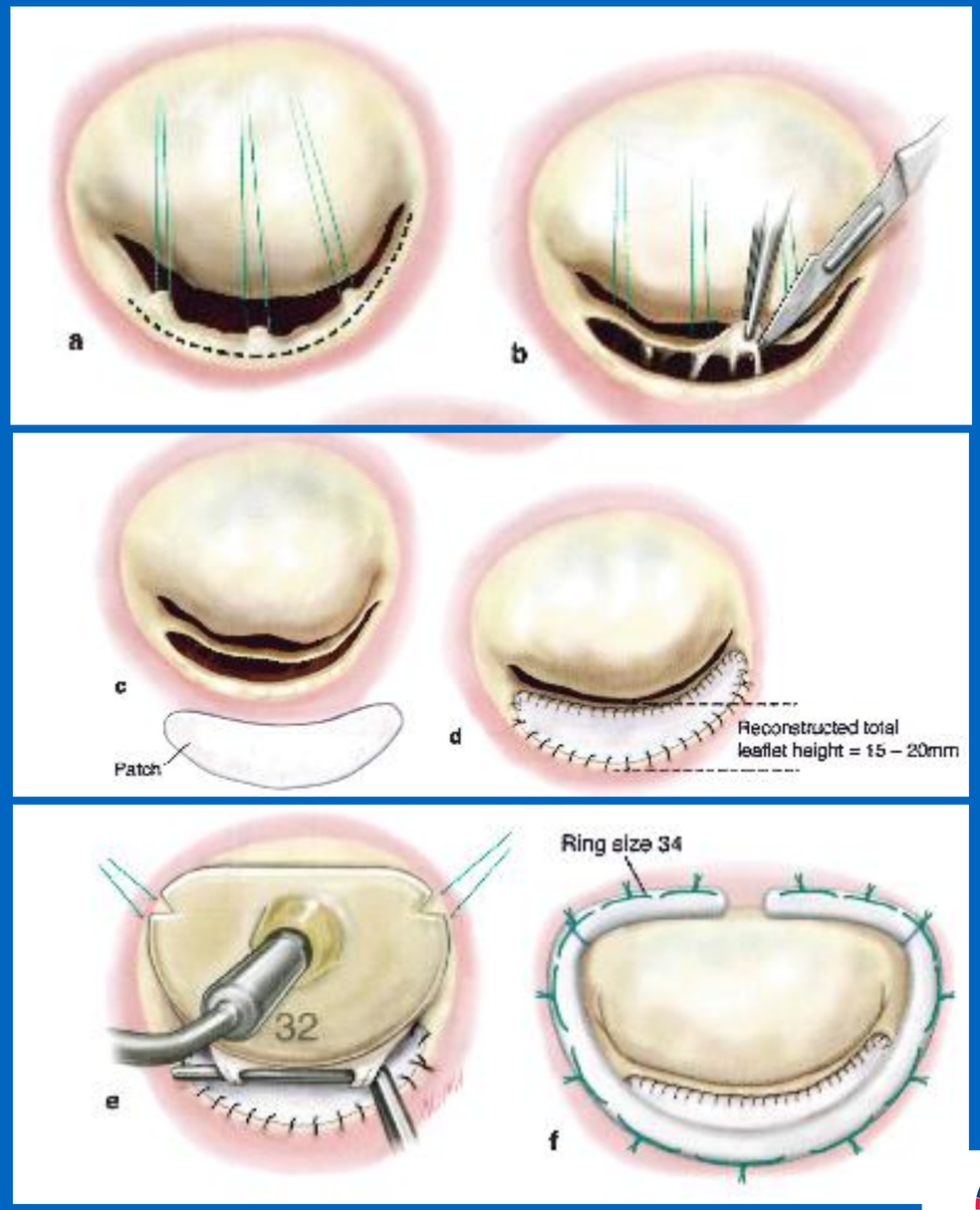
# Techniques

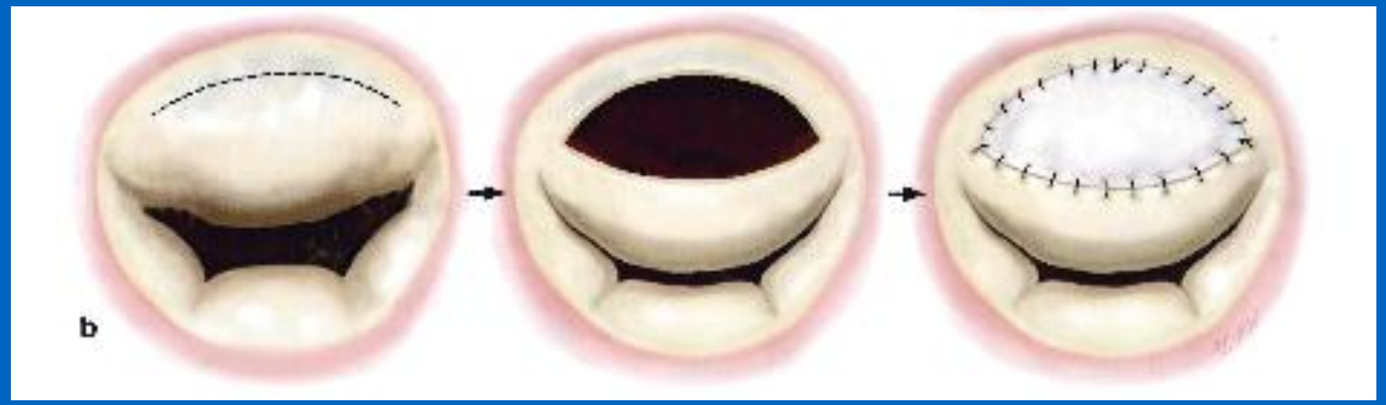
- Restriction and Shortening PML
- Often AML pseudo-prolapse
- Detach PML
  - Patch Augmentation & division $2^0$ chords
  - Shift coaptation line anteriorly
- Presents native PML for coaptation
- Annuloplasty corrects annular shape

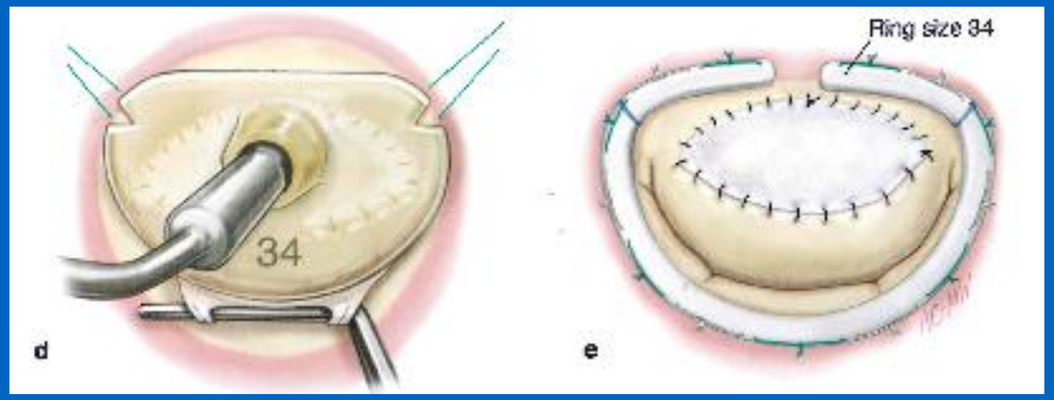



Carpentier's Reconstructive Valve Surgery. (Book). Carpentier, Adams, Filsoufi.

# AML Advancement

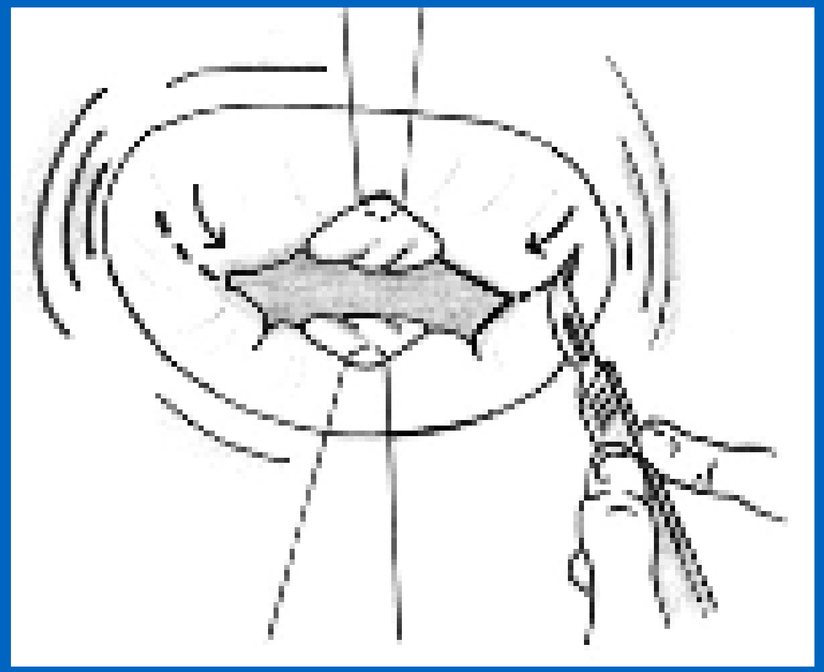
- Corrects loss of AML volume
- Allows AML to present for coaptation
- Annuloplasty corrects annular shape

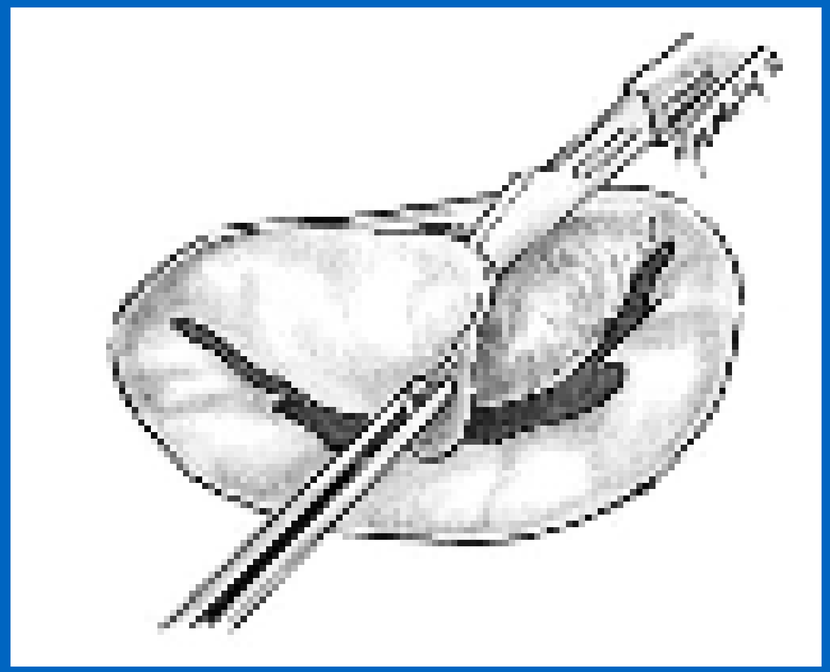


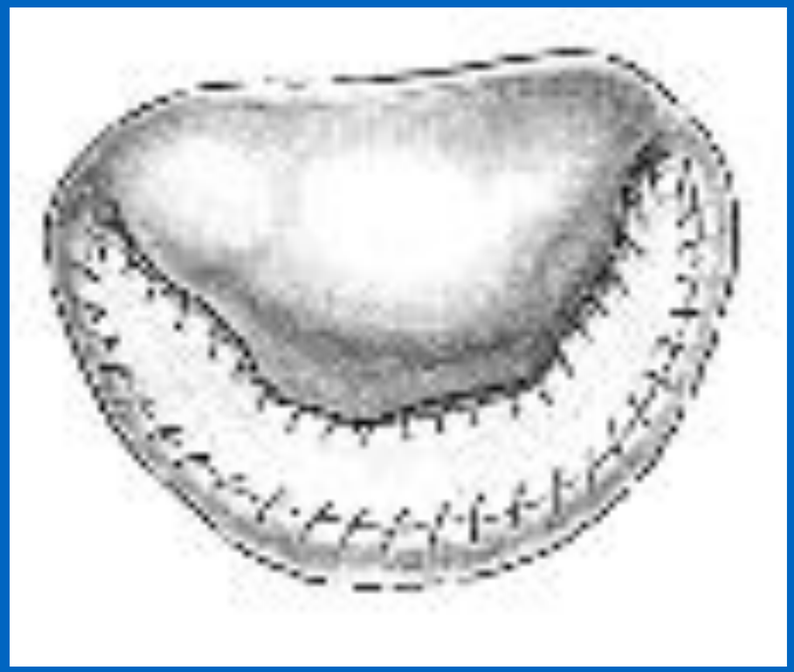




Carpentier's Reconstructive Valve Surgery. (Book). Carpentier, Adams, Filsoufi.

# Our approach







Kalangos.. Semin Thorac Cardiovasc Surg Pediatr Card Surg Ann 15:80-87

# Summary

- Not all valves are repairable but it is the ideal
  - Leaflet volume
  - Commisural disease
  - Timing of surgery - progression and burden of disease
- What is acceptable?
  - Durability vs functionality
  - Other valve pathology
  - Requirement/Planning for further surgeries

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# Case 1

- 17 yo female
- Wants children
- Remote community
- Poor compliance

- Warfarin not appropriate

- Exertional Dyspnea
  - NYHA 3
- Severe MR
- Mod AR
- LVEDD 6.5
- LVEF Normal

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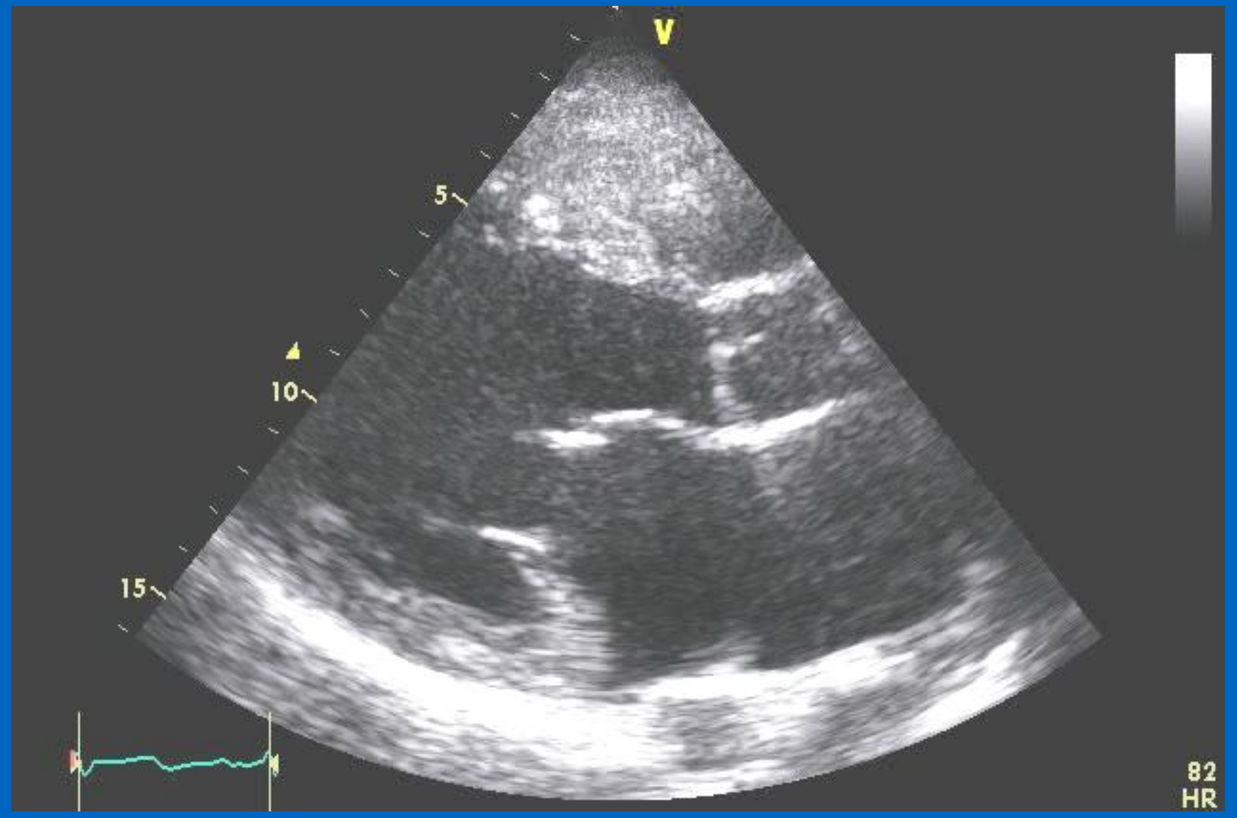
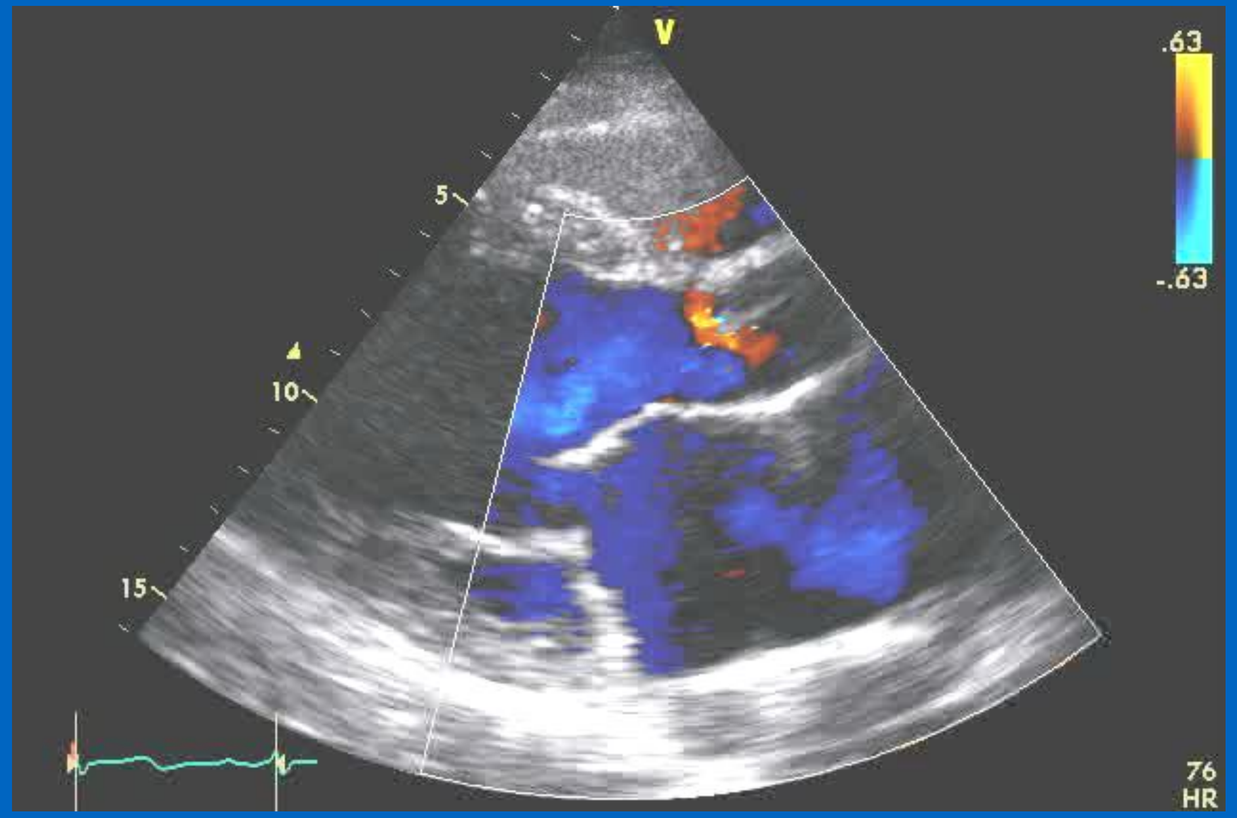
# Repairable?

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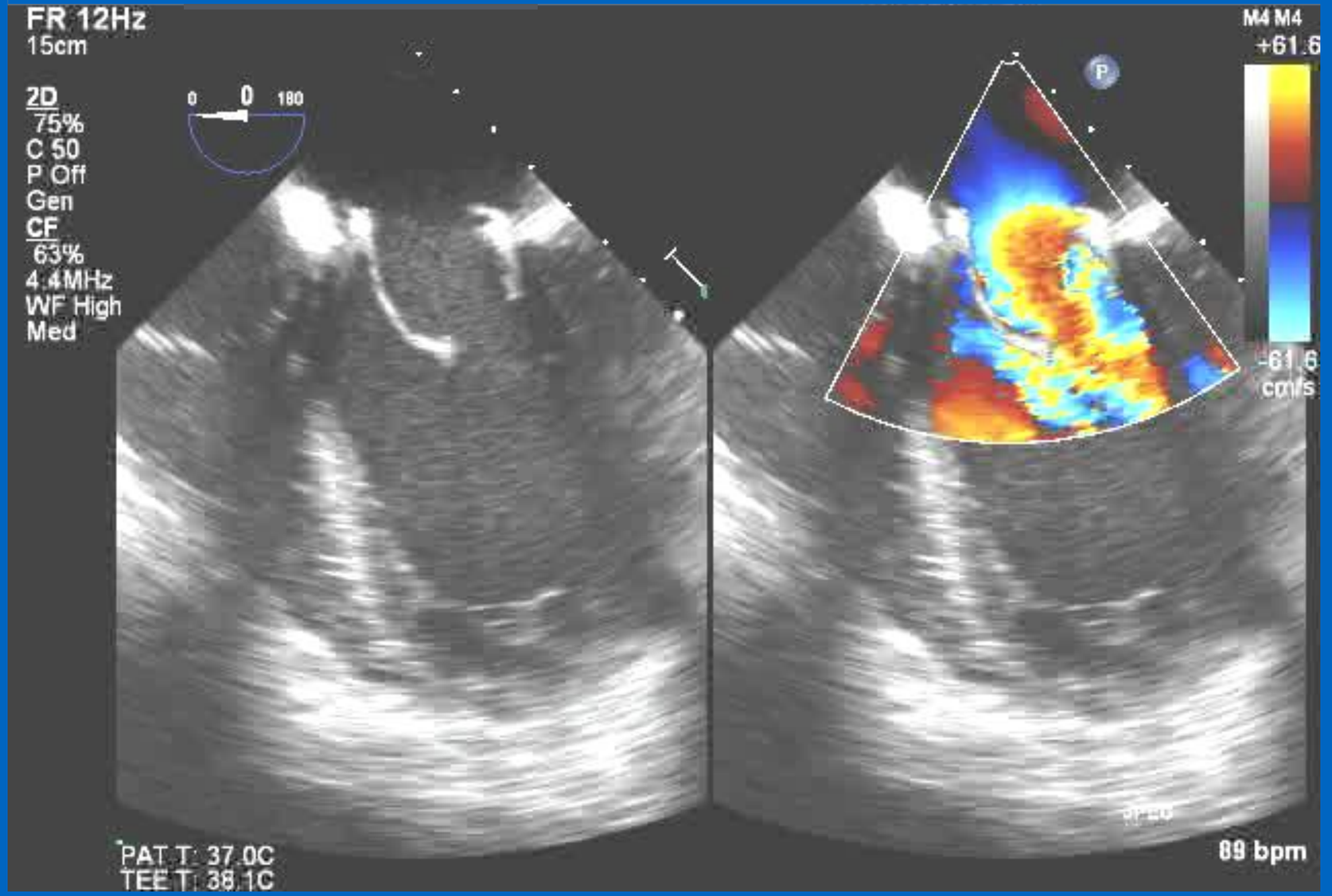
# Post Op - PML Advancement

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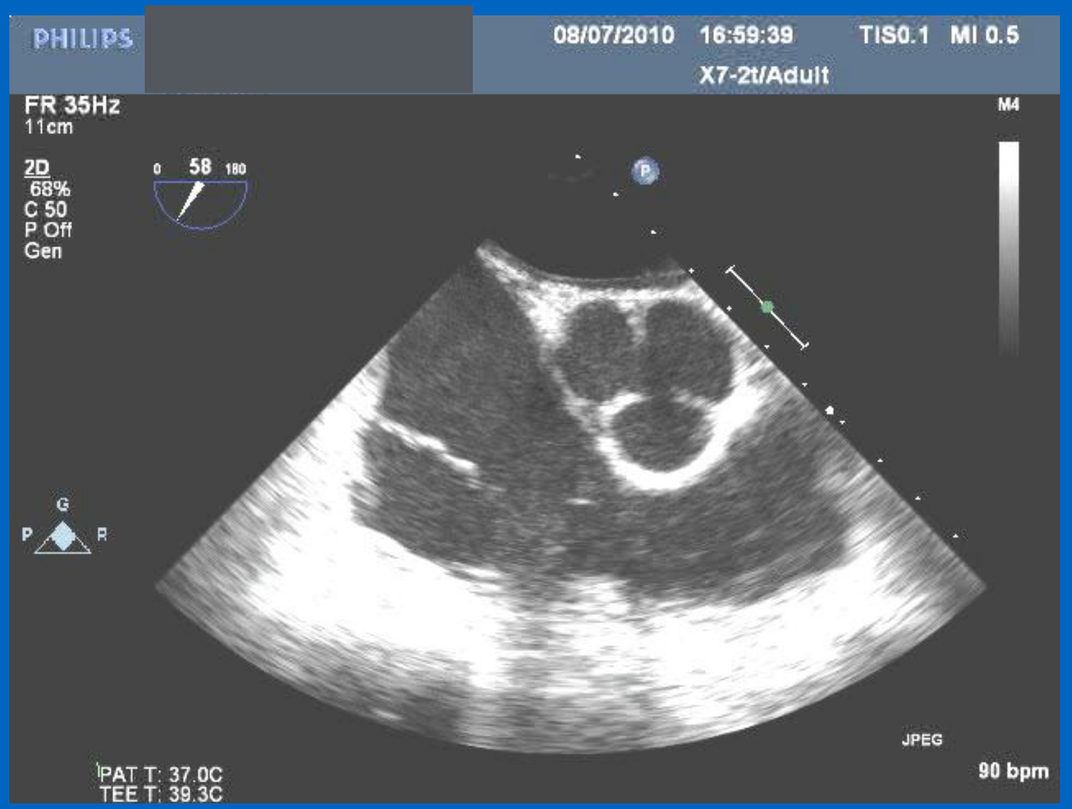
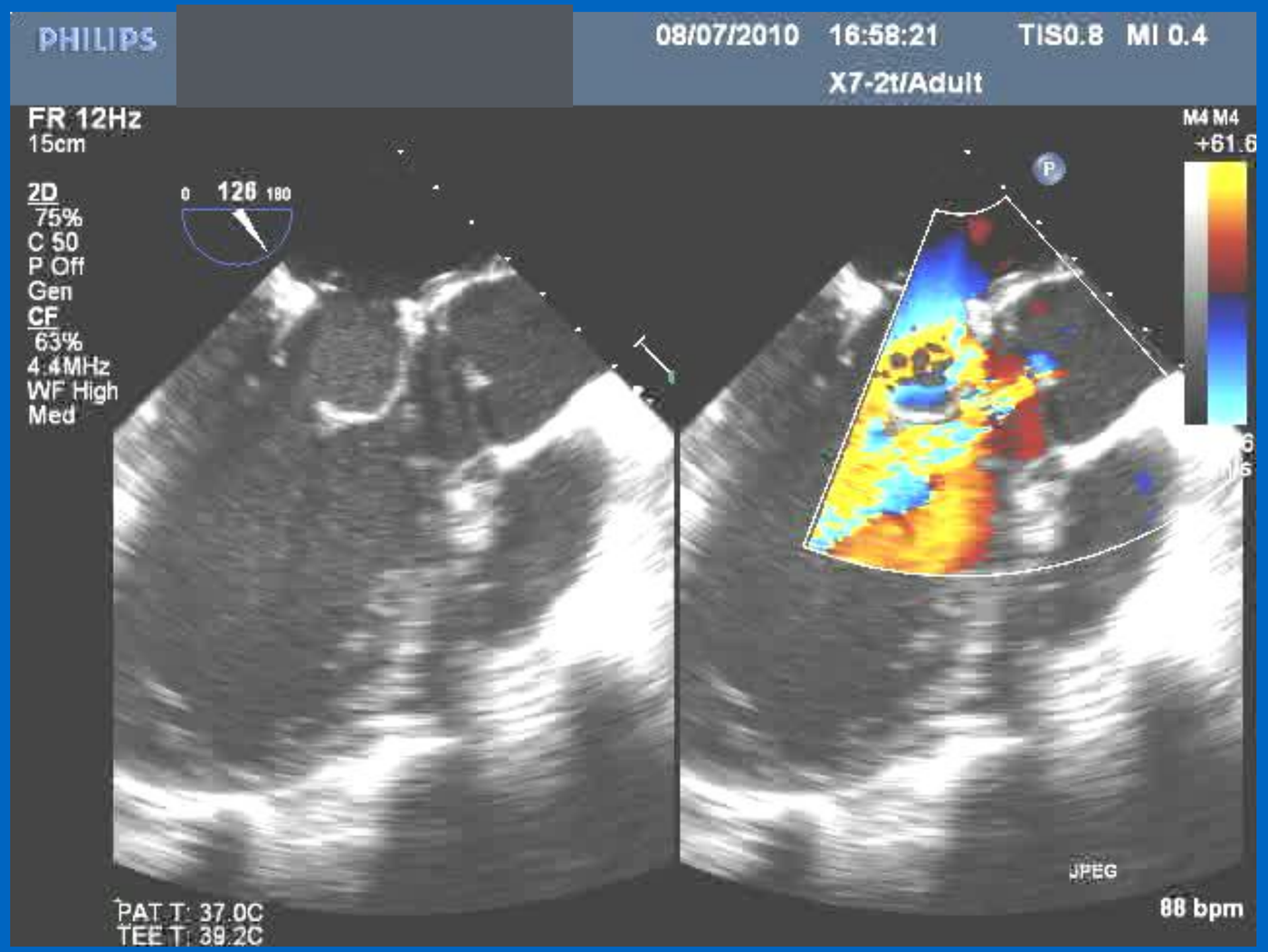
# The Dilemma

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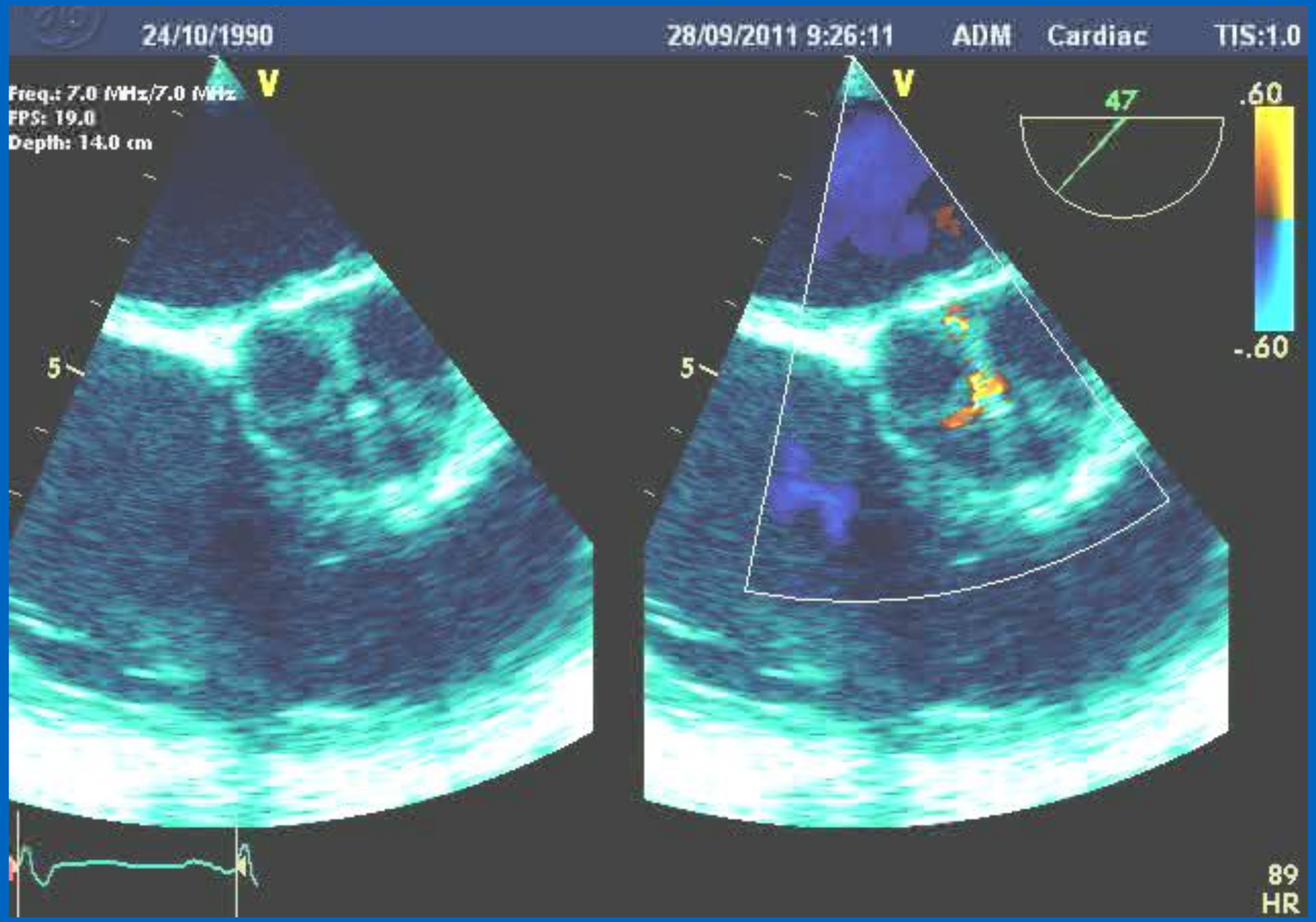
# 15 Months

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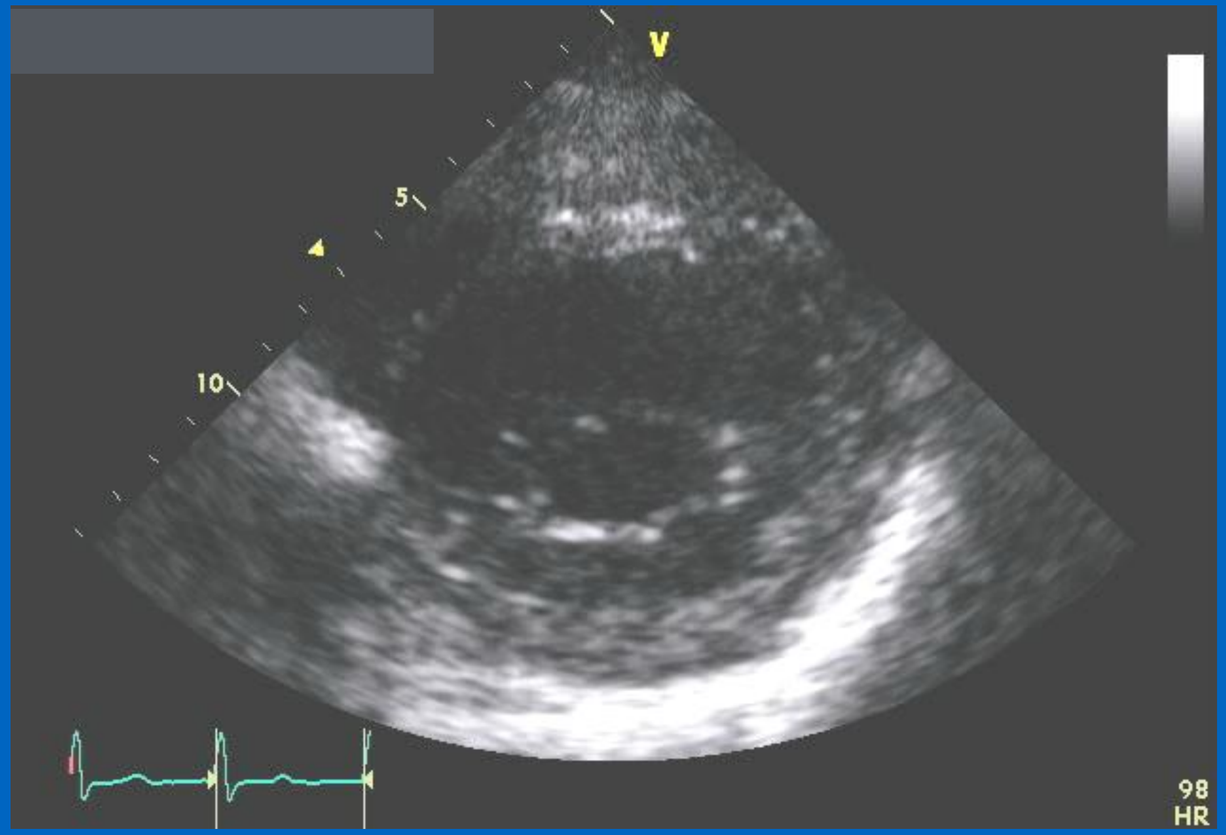
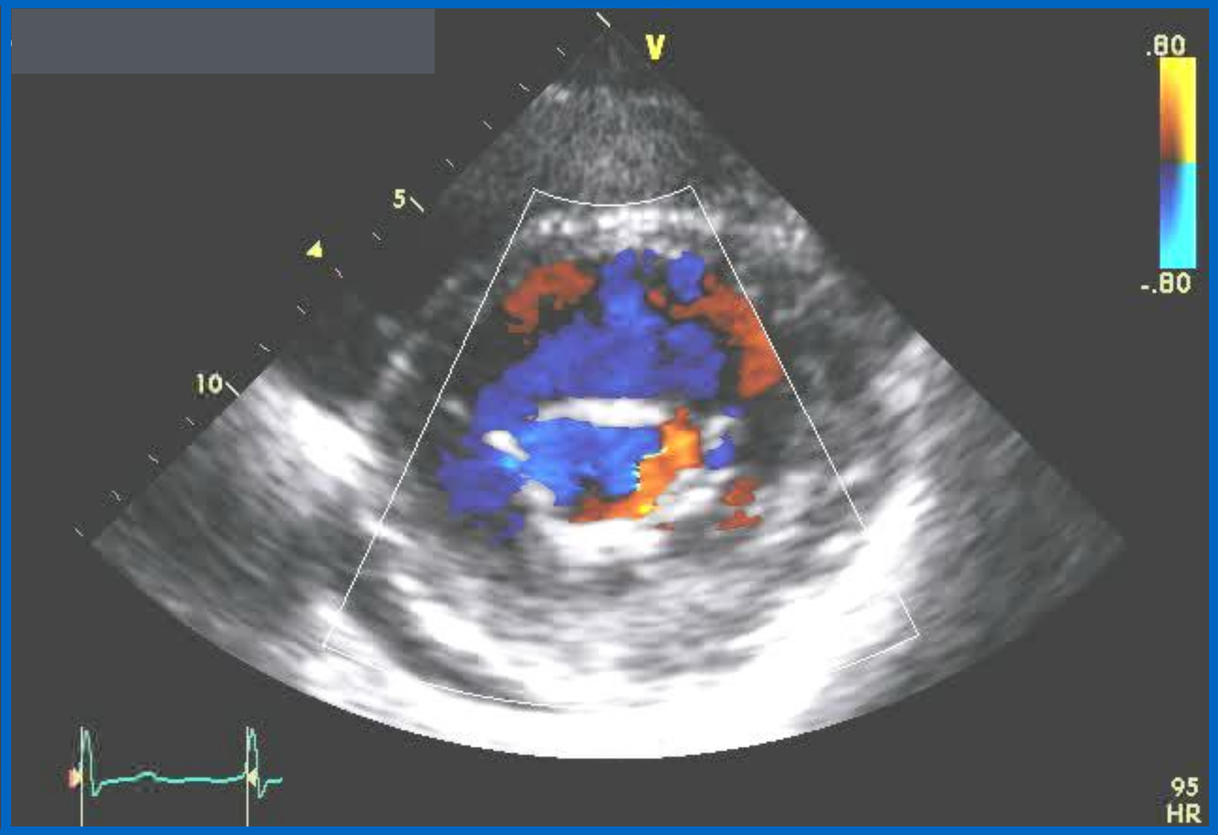
# To do or Not to do?

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# Case 2

- 22 yo female
- 1 child
  - wants more
- remote community
- compliance OK
- No community nurse

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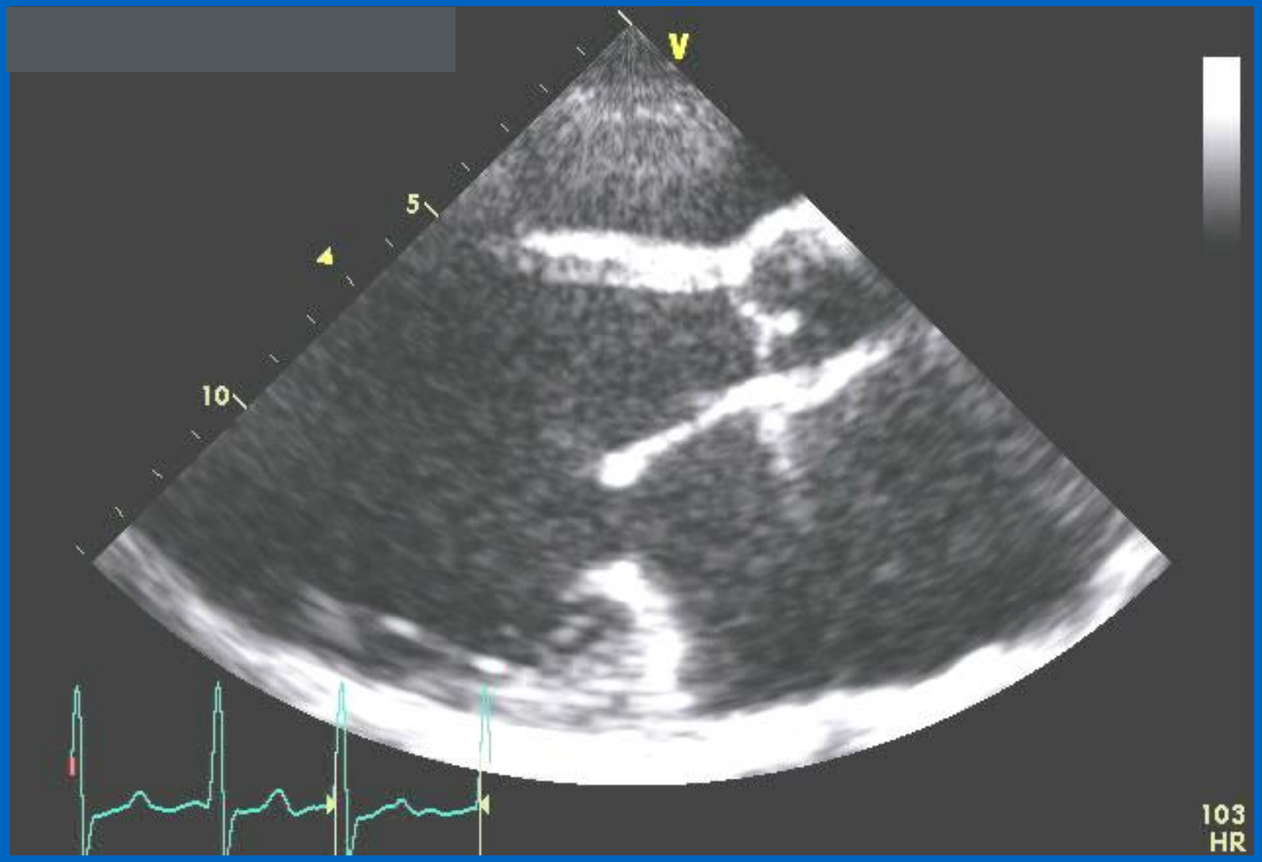
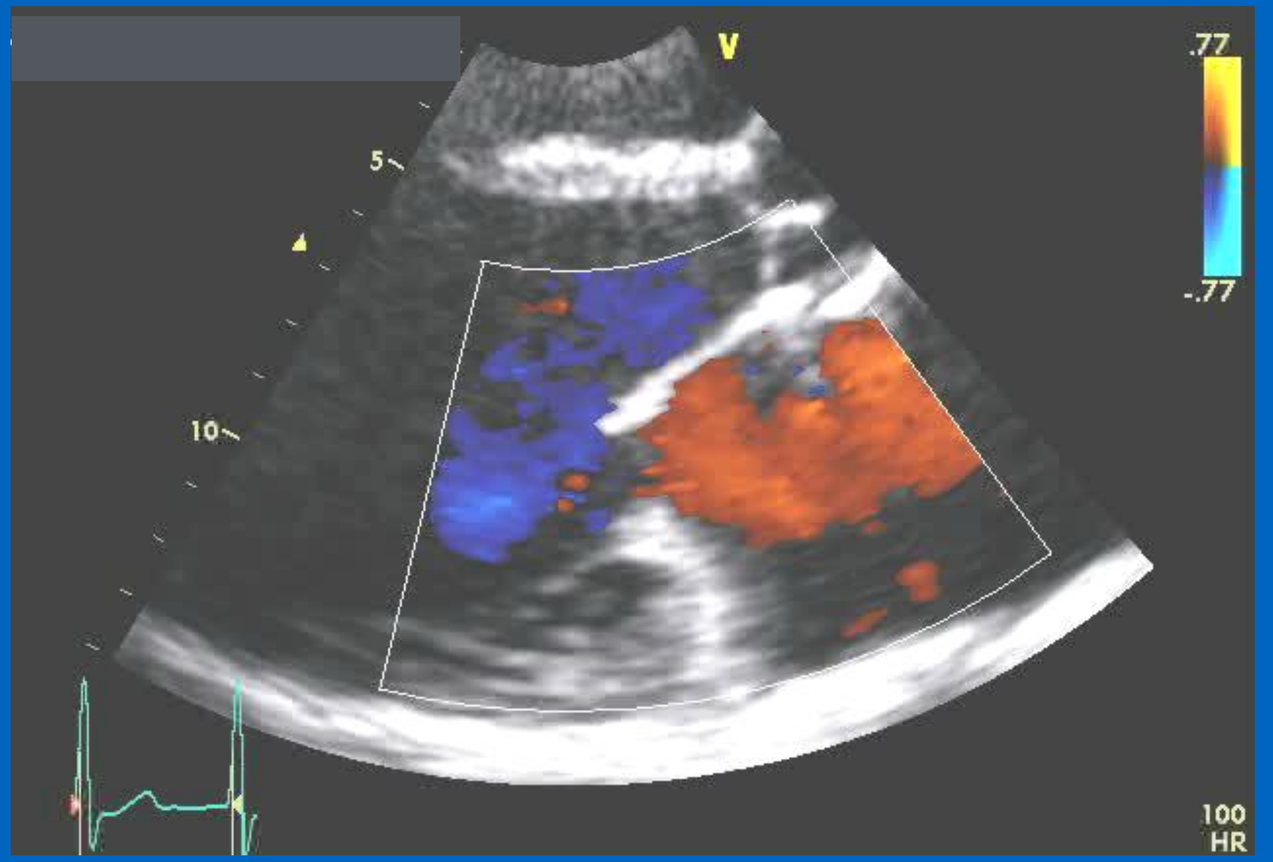
# To do or Not to do?

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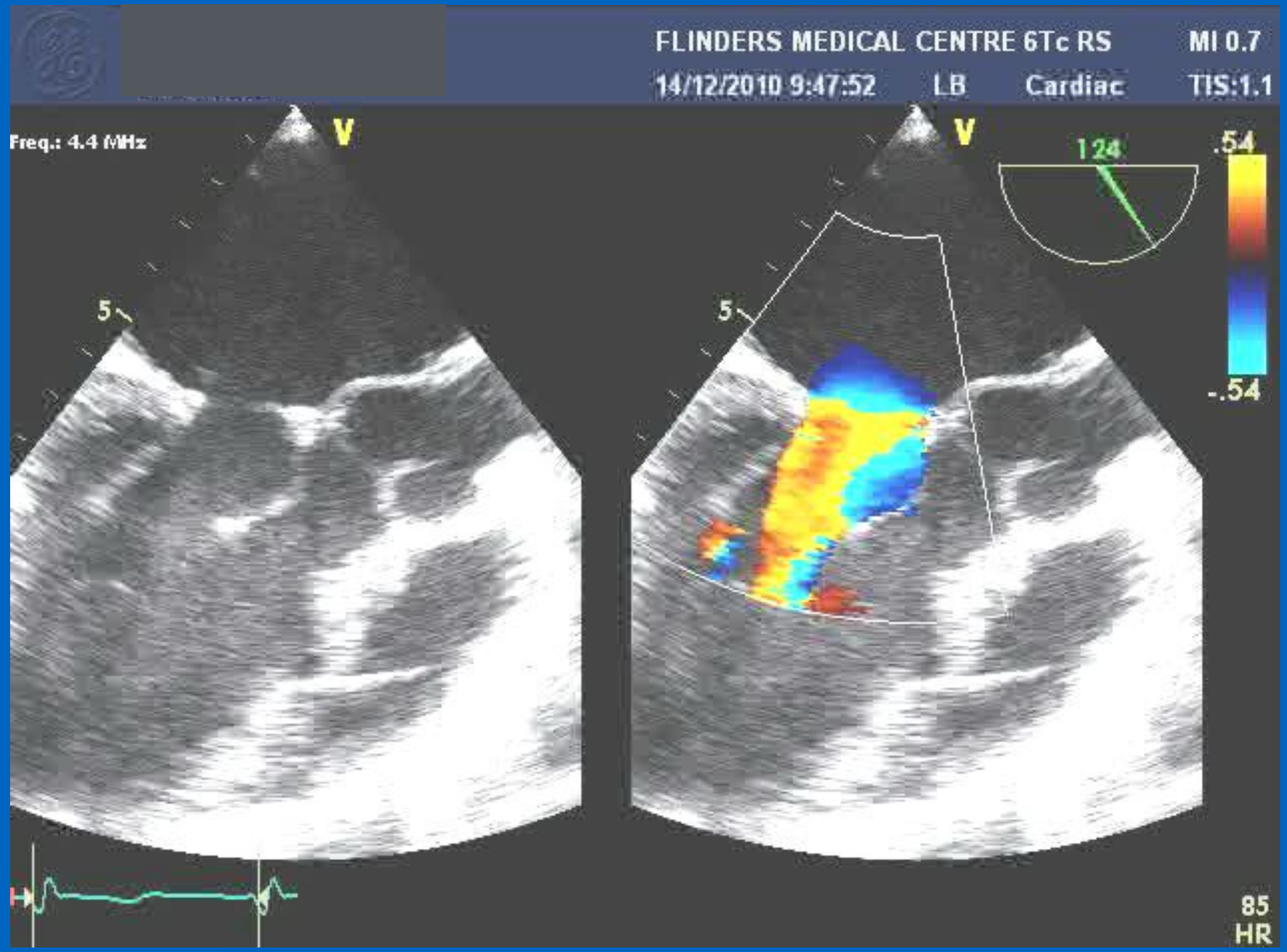
# Lucky??

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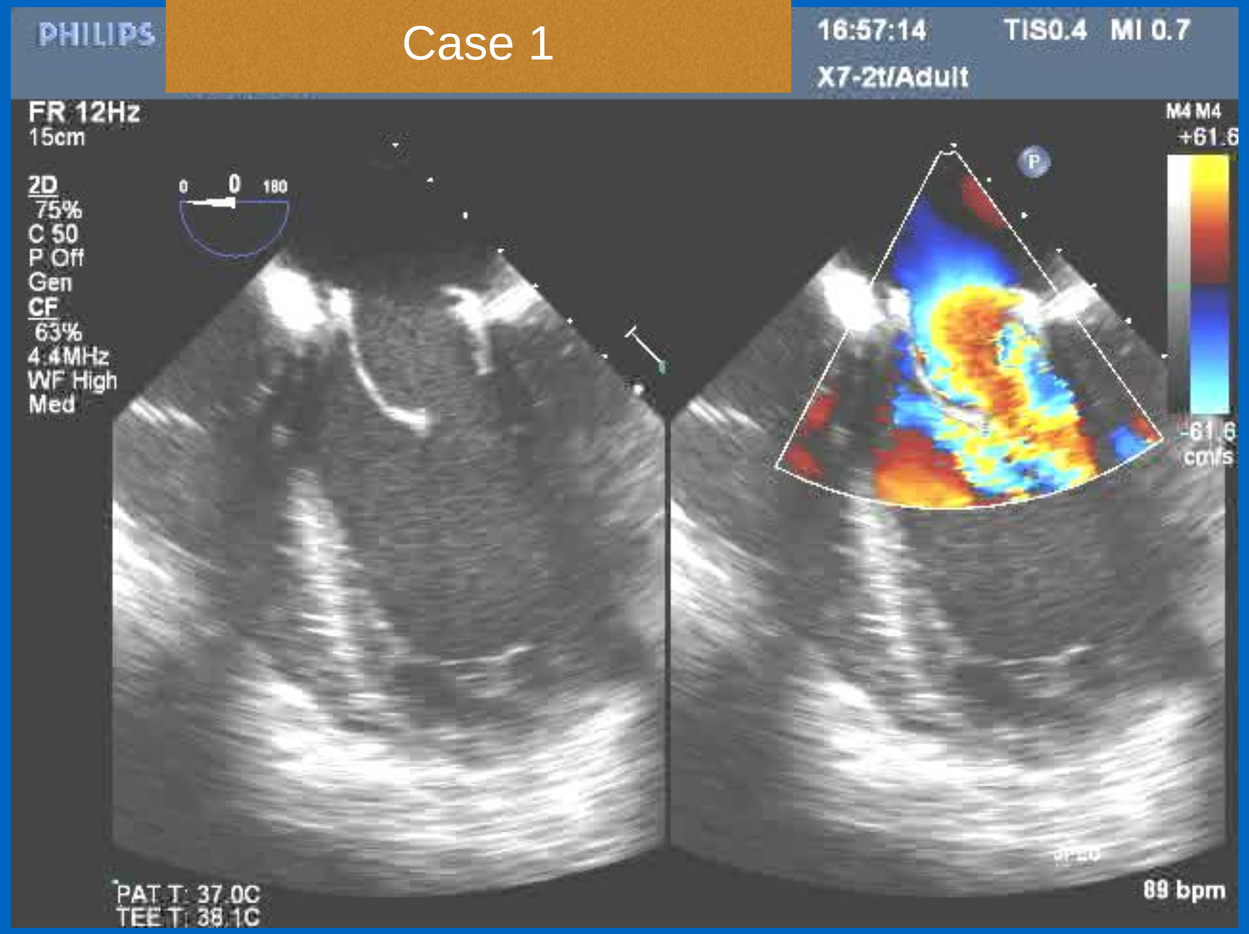
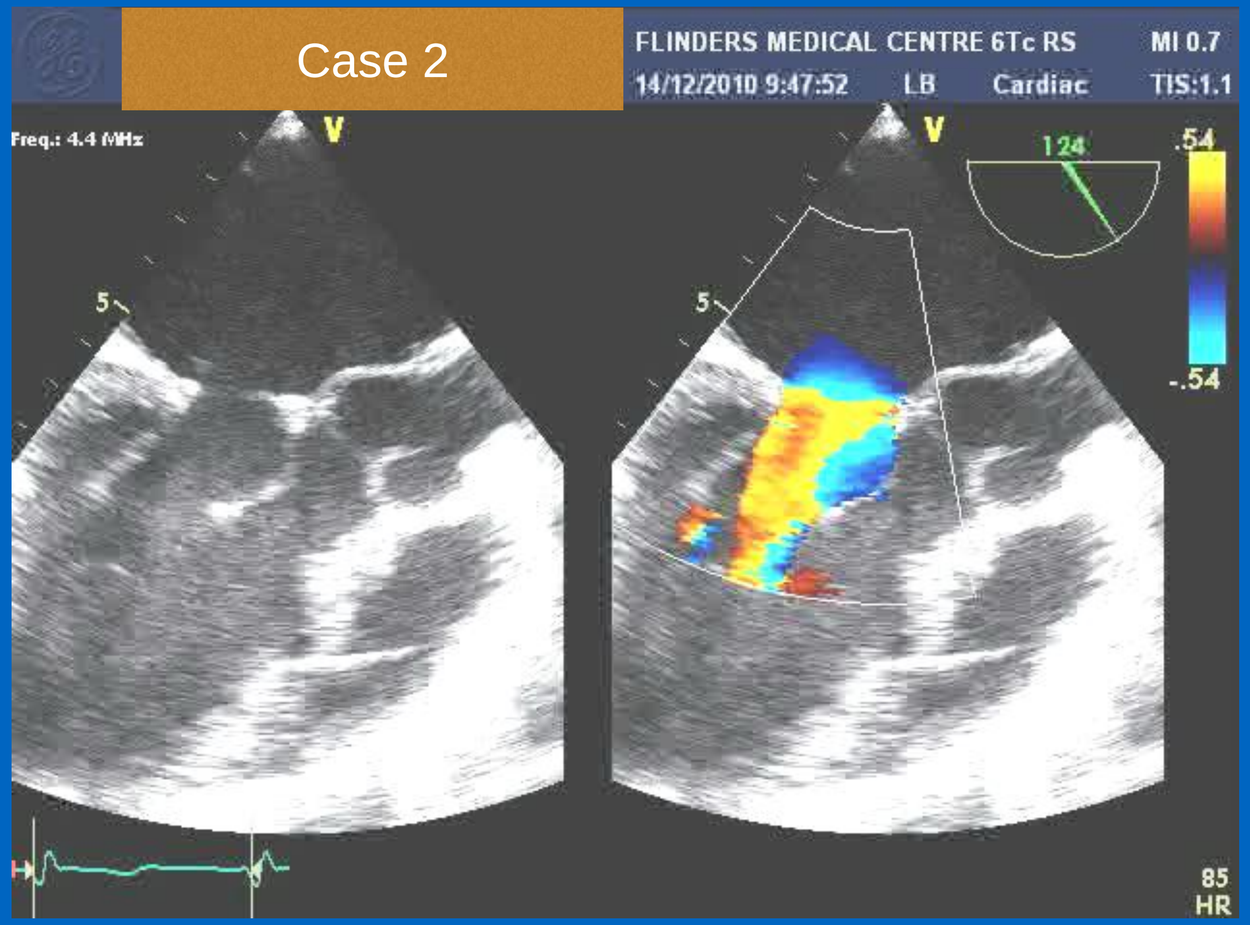
# Probably not!

Case 1




Case 2

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# Flinders Experience

- 1998-2014
- 231 Rheumatic Mitral Surgeries
  - 65 Repairs 31yrs (12-77)
  - 166 Replacement
    - 94 Mechanical 38yrs (16-73)
    - 71 Bioprosthetic 33yrs (15-70)

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# Flinders Experience

| | Mortality | AVR | Redo |
|---|---|---|---|
| • Overall | 2.5% | | |
| • 65 Repairs | **1.5%** | 10 (15.3%) | 0 |
| • 166 Replacement | **3.0%** | | |
| • 94 Mechanical | 2.1% | 28 (29.7%) | 19 (20%) |
| • 71 Bioprosthetic | 4.2% | 8 (11.2%) | 16 (22%) |

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# Mitral Repair

- 65 Cases
  - 64 Indigenous
  - 1 early death
  - 3 late deaths - 7, 5 and 5 years
  - 3 lost to follow up
  - 11 reoperations  (17.7%)  at average 54.4 +/-32.2 months

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# Mitral Repair

- Freedom from ReOperation / Death
  - 75.8% at 77 months (1-174)
- Mean Echo Follow Up
  - 43.6 +/- 33.4 mths
  - 59.5% Mild or Less MR
  - 77.5% MV Grad <8

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# Summary

- MV Repair
  - Lower risk
  - Will need further surgery
- Comparable durability
  - Is it better than tissue prosthesis?
  - Is the ReOp easier?
- Management of other valves

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# Acknowledgements


- Dr Gareth Crouch
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