Winnie presents:

# PACES 2005 Training

## Congenital heart disease

# Contents

- Overview: Get on top of sound
- Lesson 1: when to suspect
- Lesson 2: which to suspect

# When to look for:

- Cyanosis
- Right-side dominant sign ***except COA***
  - –Parasternal heave
  - –ESM not typical of AS[1]
  - ***while the pulse volume is not low!

[1] pulmonary if ↑with inspiration, along the left sternal border but not apex/right 2nd intercostal space

## With cyanosis*

- Eisenmenger Syndrome
- Tetralogy of Fallot

## Without cyanosis

- With murmur
- ‘Without’ murmur**

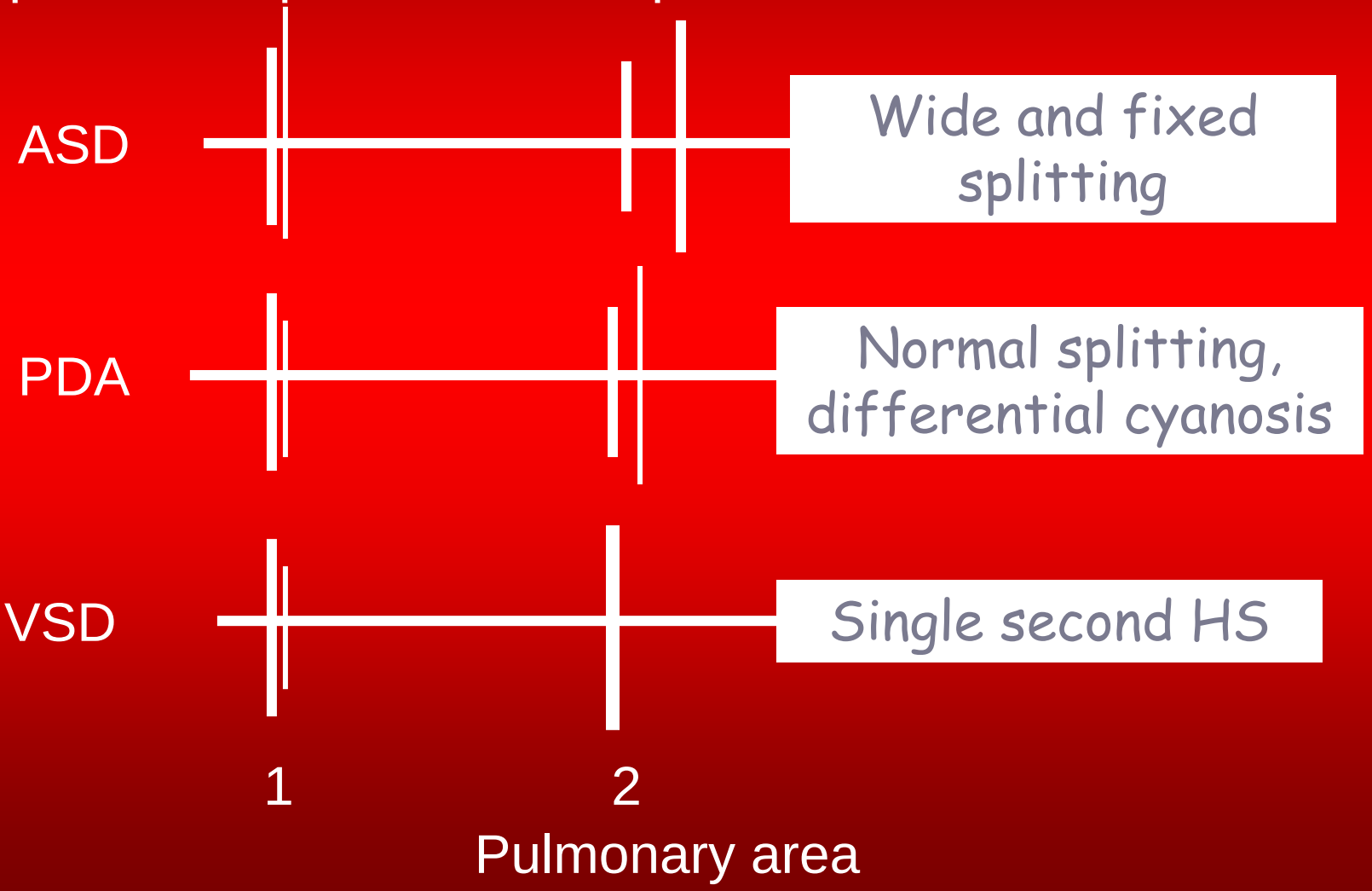
# 2 commonest cyanotic heart disase in adult

| | **Eisenmenger** | **TOF** |
|---|---|---|
| Pulmonary systolic thrill | Absent | Present |
| Pulmonary systolic murmur | Absent | Intense |
| RVH | ++++ | ++ |
| CXR | Large pulmonary arteries | small pulmonary arteries |

# Eisenmenger syndrome

# DDx in Eisenmenger

All the classical murmur tends to disappear when right side pressure equalize left side pressure



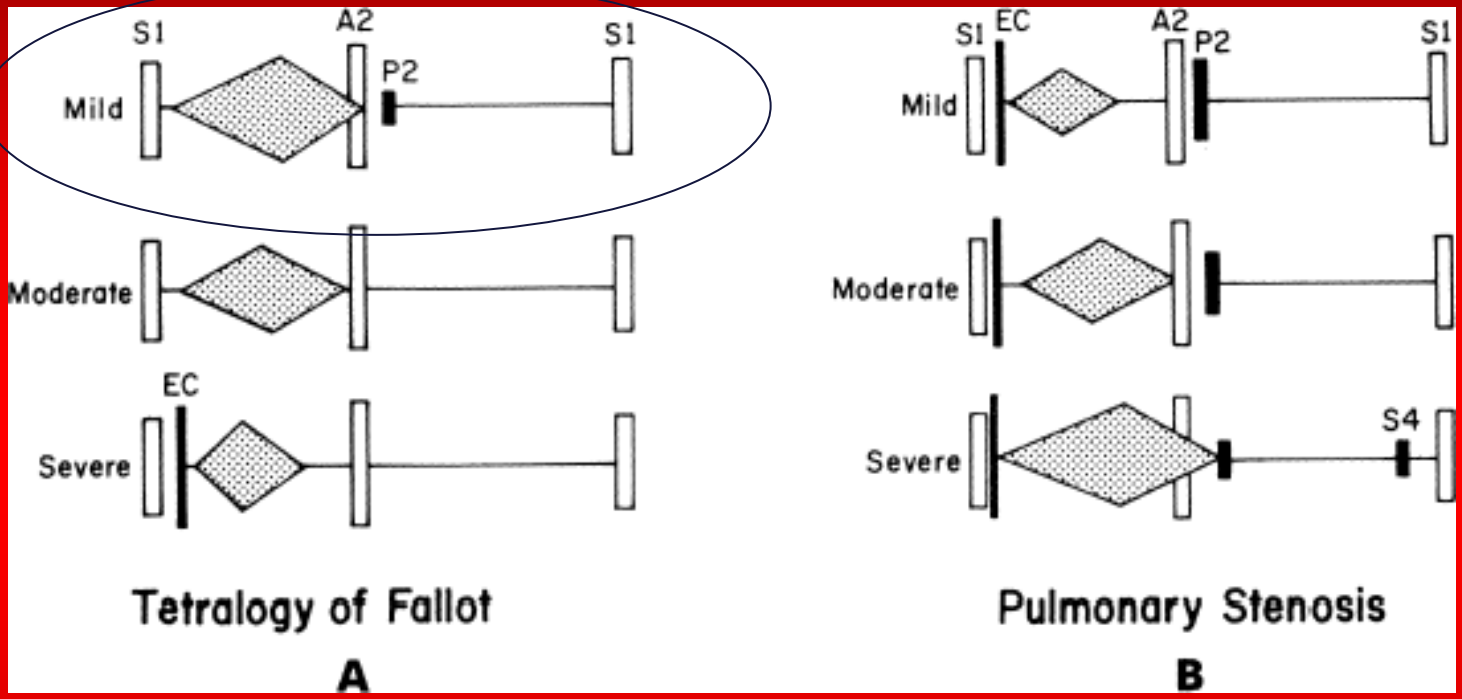
# Tetralogy of Fallot

# Tetrad

1. Pulmonary stenosis
   - Usually infundibular
2. Ventricular septal defect
   - Non-restrictive
3. Dextroposed aorta
   - And overriding
4. Right ventricular hypertrophy
   - Due to 1 & 2 above

# ddx
# acyanotic TOF vs Pure PS

Large VSD =




| | | |
|---|---|---|
| A2 | Not obscured by murmur | Partially obscured by murmur |
| S2 | Single; or wide split with soft P2 | wide split with soft P2 |

# ddx
# cyanotic TOF vs PS + ASD

| | **Tetralogy** | **PS + ASD** |
|---|---|---|
| Cyanosis | Severe | Mild |
| “a” wave | Some | Most |
| S2 | Loud, single | wide split with soft P2 |
| Systolic murmur | Shorter | Longer |
| Associated anomaly | Polydactyly | Turner’s, hyperteleorism |

Lesson 1

**You see only what you look for**

# Pitfalls in COA

- If you do not look for radiofemoral delay *carefully and routinely* when the femoral pulse is weak or absent
- Collateral flow may not be recognized especially when the exposure of the precordium is limited
- Associated with bicuspid aortic valve works as a red herring
- The murmur of the coarctation itself is at the back (over the thoracic spine) or below the left clavicle

# Pitfalls in ASD

- Fixed splitting is painstakingly to look for
- Splitting can be “persistent” rather than fixed
  - Never closing with expiration
- Patient has to be very smart to take deep breath
- Mistaking opening snap as a wide splitting
  - especially when you failed to pick up the highly localized MS murmur at apex.

6 ways to differentiate wide splitting from AS-OS

# ‘Ectopic’ P2? Late OS?

| P2 | OS |
|---|---|
| 1. loudest at LUSB | 1. loudest between apex and LLSB |
| 2. separates from S2 on inspiration | 2. close with S2 on inspiration |
| | 3. opens on standing |

| OS | S3 |
|---|---|
| 1. higher pitched | 1. low pitched |
| 2.Occurs earlier* | 2.Occurs later |
| 3.Best heard near sternum | 3.Best heard at apex |
| 4.Louder on expiration | 4. Louder on inspiration |

*Differential diagnosis of late OS

1. the early S3 of constrictive pericarditis (pericardial knock)

2. the tumor plop of atrial myxoma

# Reasons to missing MS

- Not using bell
- Not using bell properly
- Not exercising patient
- Not turning on the left side
- Not making exhale
- Forgetting the Osler's quarter*

**The murmur of mitral stenosis may be concealed under a quarter of dollar*

*---Osler*

# Pitfalls in PDA

- If you do not look for cyanosis in the toes *routinely*
- The murmur of PDA is not in the classic “aortic, pulmonary, tricuspid and mitral” area

# Remember

We try our best and
God will do the rest

*Remember that you can't remember*

*Everything we've said,*

*But you will be some surprised*

*How much is in your head.*

Go back to slide 1