

Rheumatic Fever and Rheumatic heart disease

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What is RF?

= Over-reaction of body's immune system against its own tissue

- Group A Streptococcal throat infection
- Body produces antibodies against infection.
- Antibodies see heart and other tissue as “foreign” and attack and damage it.

Who gets RF?

- Mainly children 5 – 15 yrs old.
- “Third world” problem of Poverty:
 - Overcrowding
 - Poor nutrition
 - Limited access to primary healthcare
- Genetic predisposition

How do they present?

2 - 3 weeks after throat infection:

- Tiredness
- Poor appetite / weight loss
- Fever
- Painful joints
- Heart failure

Modified Jone's Criteria

5 Major Criteria

- Carditis
- Polyarthritits
- Sydenham chorea
- Erythema marginatum
- Subcut. nodules

5 Minor Criteria

- ↑ PR interval on ECG
- Arthralgia
- ↑ CRP/ ESR/ WBC
- Fever
- History of previous RF

DIAGNOSIS:

- 1. Evidence of Strep infection**
- 2. Two Major / one Major and two minor criteria**

(Pan)Carditis

- Resting tachycardia
- Murmur
- ECG: PR prolonged, small complexes
- Heart failure
 - Oedema
 - Hepatomegaly
 - Dyspnoea



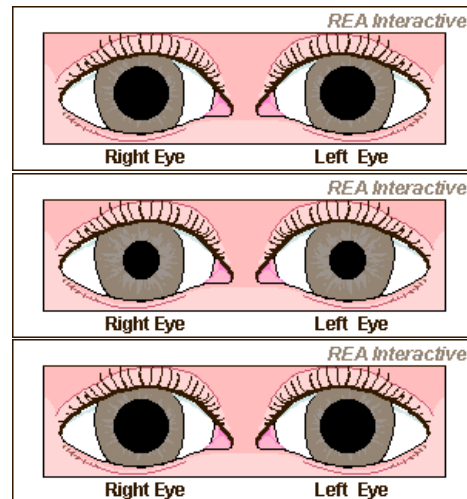
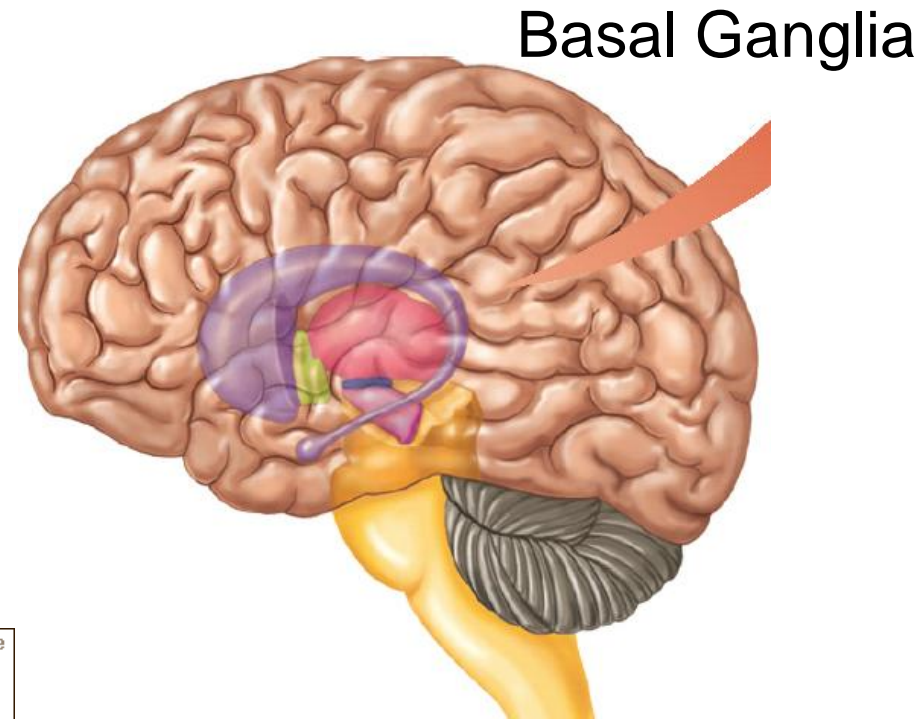
Polyarthrititis

- Large joints.
- Red, swollen, painful.
- Child won't move.
- “Flits” from joint to joint.



Sydenham Chorea

- Girls > boys
- Emotional
- “Clumsy”
- Fidgety
- Abnormal movements
- Hippus



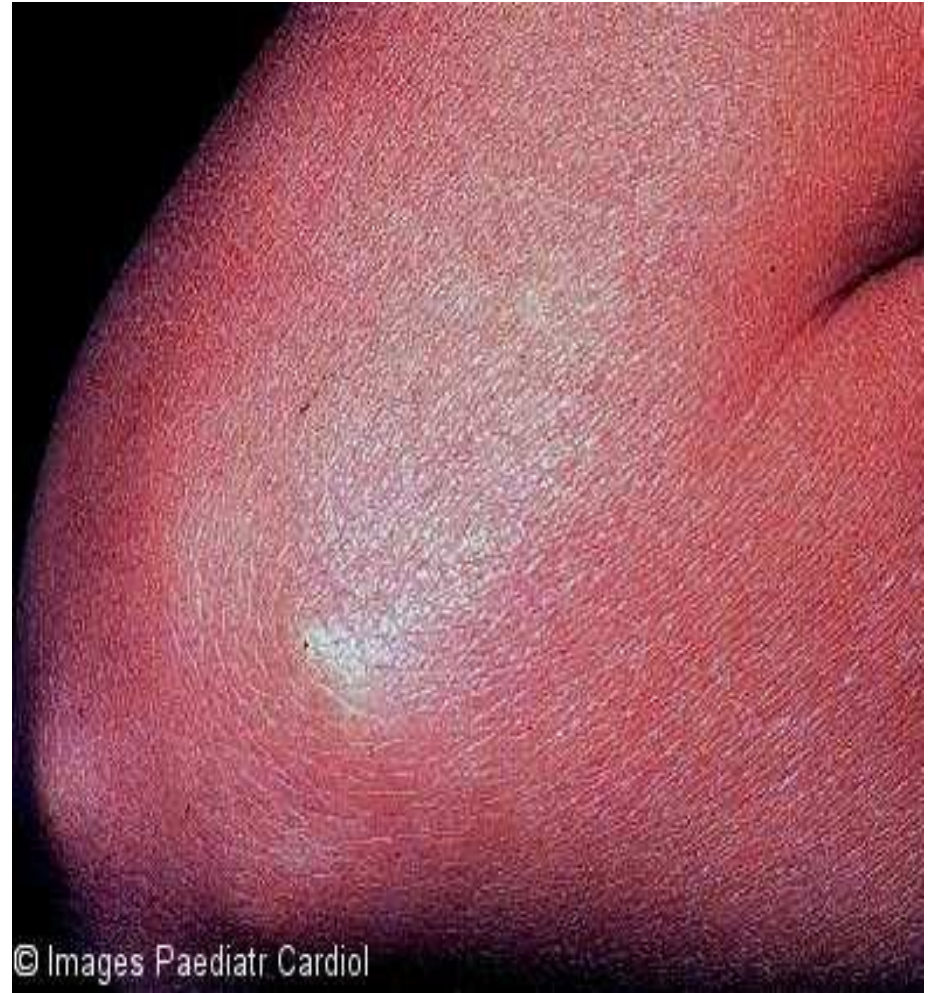
Erythema Marginatum

- Non-itchy rash
- Red margin
- Pale center
- “Swimming trunk”
distribution

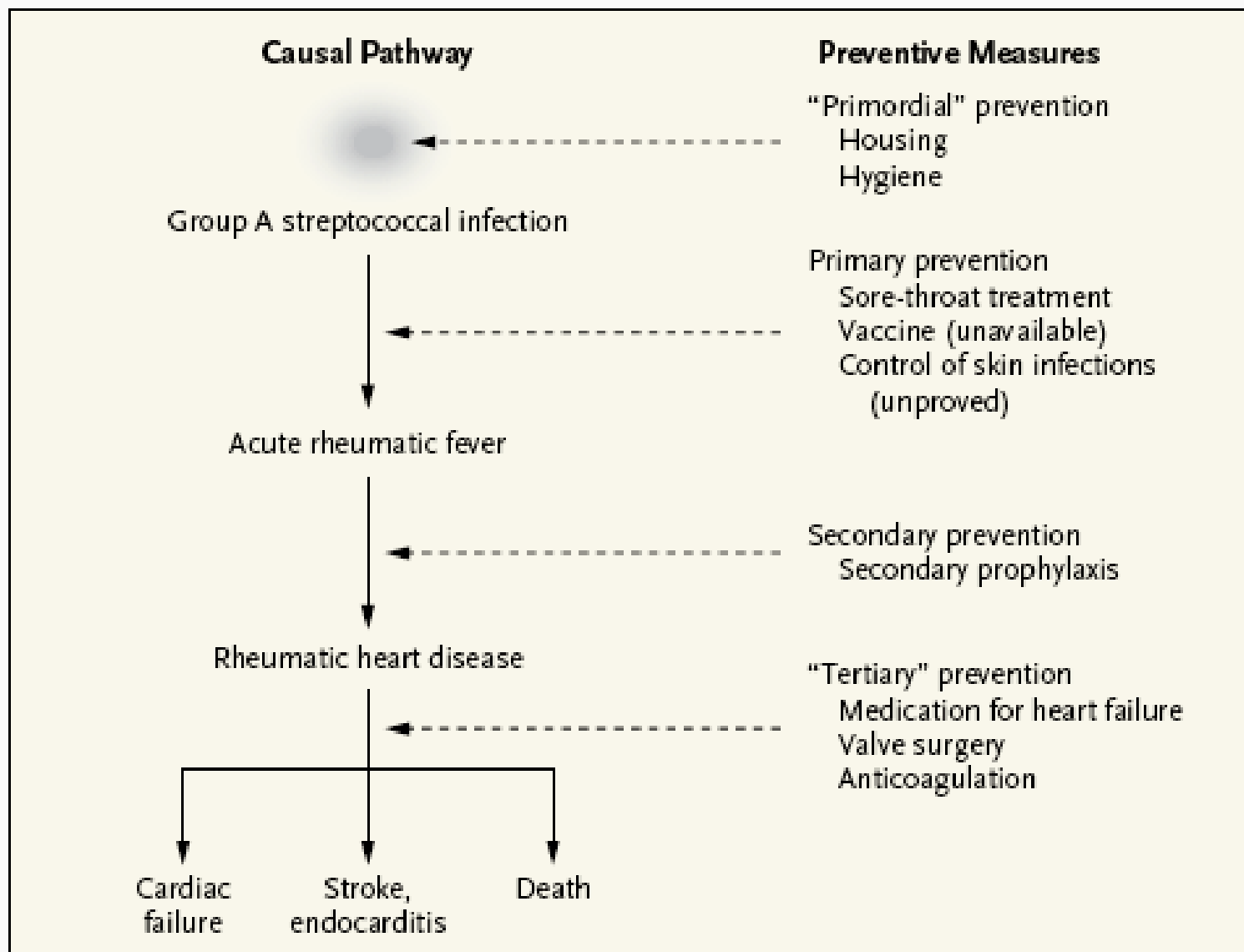


Subcutaneous nodules

- Rarely seen
- Painless, firm, mobile
- Extensor surfaces



Prevention and treatment of RF



Potential Preventive Measures for Rheumatic Fever and Rheumatic Heart Disease.

"Sore-throat treatment" refers to primary prophylaxis — that is, diagnosis and treatment of group A streptococcal pharyngitis.

“Primordial” Prevention

- Socio-economic upliftment:
 - Housing
 - Hygiene
 - Nutrition
- Access to healthcare
- Access to antibiotics

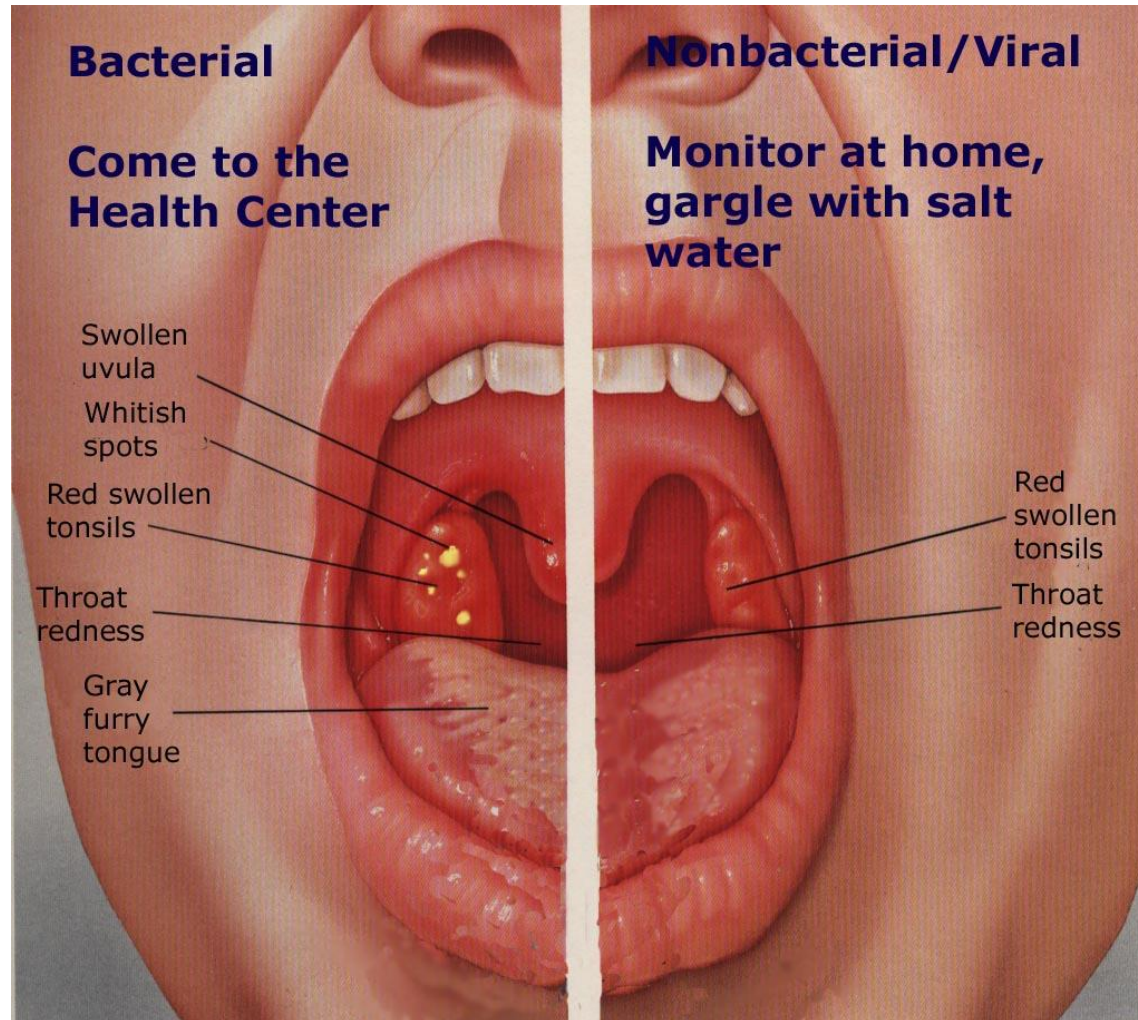
Primary Prevention

- Diagnose GAS pharyngitis
- Treat it!
- Treat it correctly!

Clinical diagnosis of GABS

Four Centor criteria:

1. Fever
2. Swollen, tender anterior cervical lymph nodes
3. Tonsillar exudate
4. Absence of cough

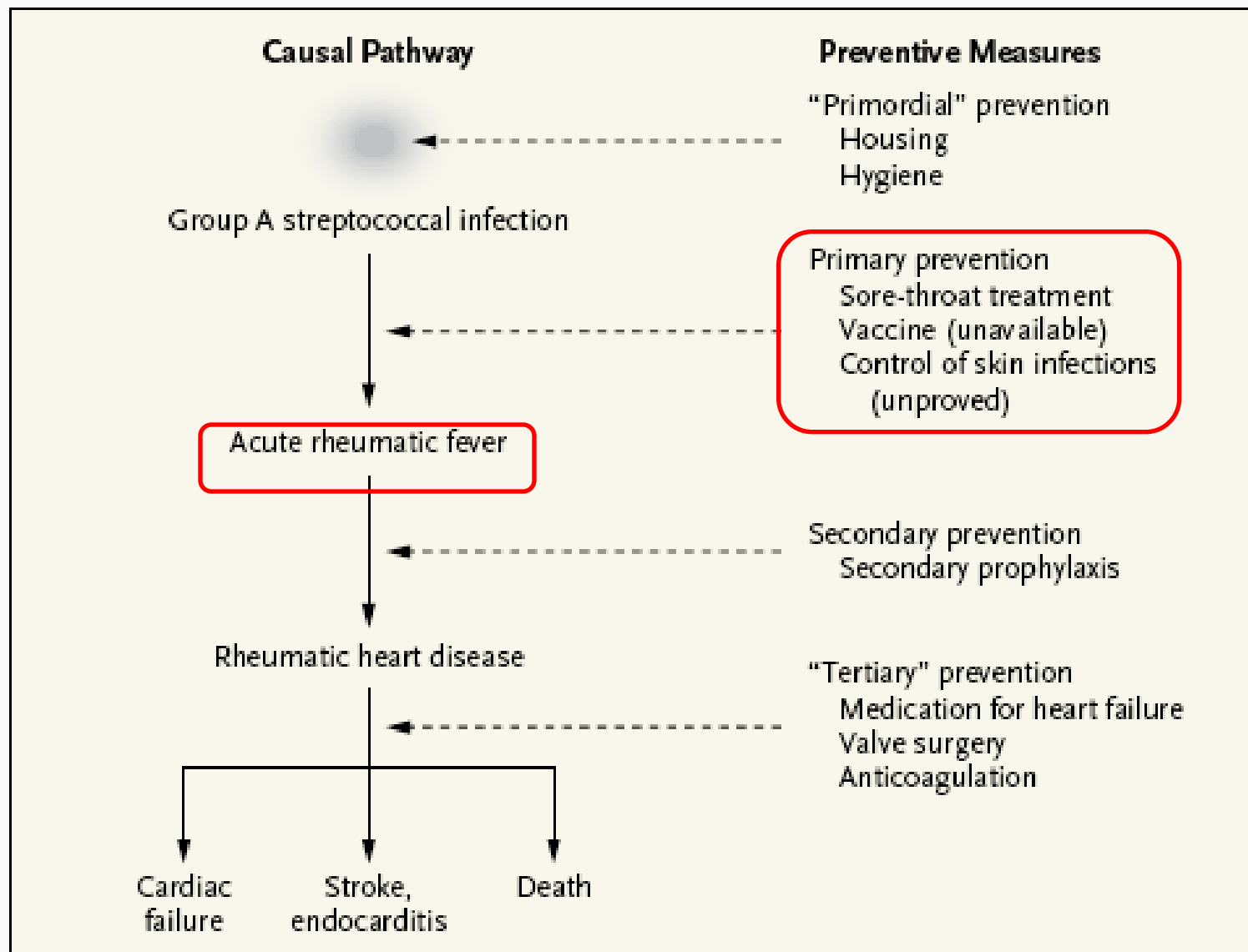


Treatment of GAS Pharyngitis

Drug	Dose	Freq	Route	Duration
Benzathine Penicillin G	< 27 kg: 600 000 IU > 27 kg: 1,2 mil IU	Stat	IMI	Stat
Pen VK	< 27 kg: 250 mg > 27 kg: 500 mg	tds	po	10 d
Amoxicillin	50 mg/kg (max 1g)	od	po	10 d
Cephalexin	25-100mg/kg/d	tds	po	10 d

Penicillin Allergy

Drug	Dose	Freq	Route	Duration
Clindamycin	20 mg/kg/d (max 1.8 g/d)	tds	po	10 d
Erythromycin	< 27 kg: 125 mg > 27 kg: 250 mg	qid	po	10 d
Azithromycin	12 mg/kg/d	od	po	5 d
Clarithromycin	15 mg/kg/d (max 250 mg bd)	bd	po	10 d

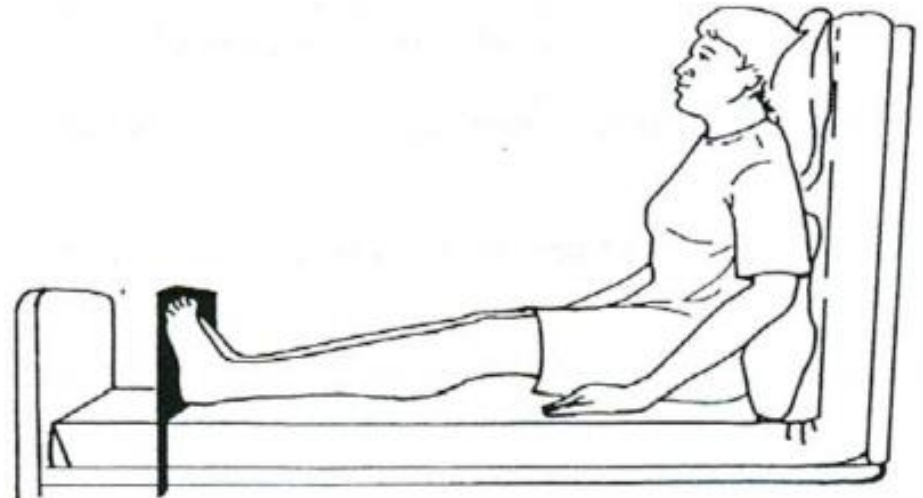


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Treatment of Acute RF

- Antibiotics : Penicillin IM / po
- Bedrest to rest heart
- Anti-inflammatory drugs for arthritis
- Monitor disease activity
- Manage Chorea
- Treat CCF

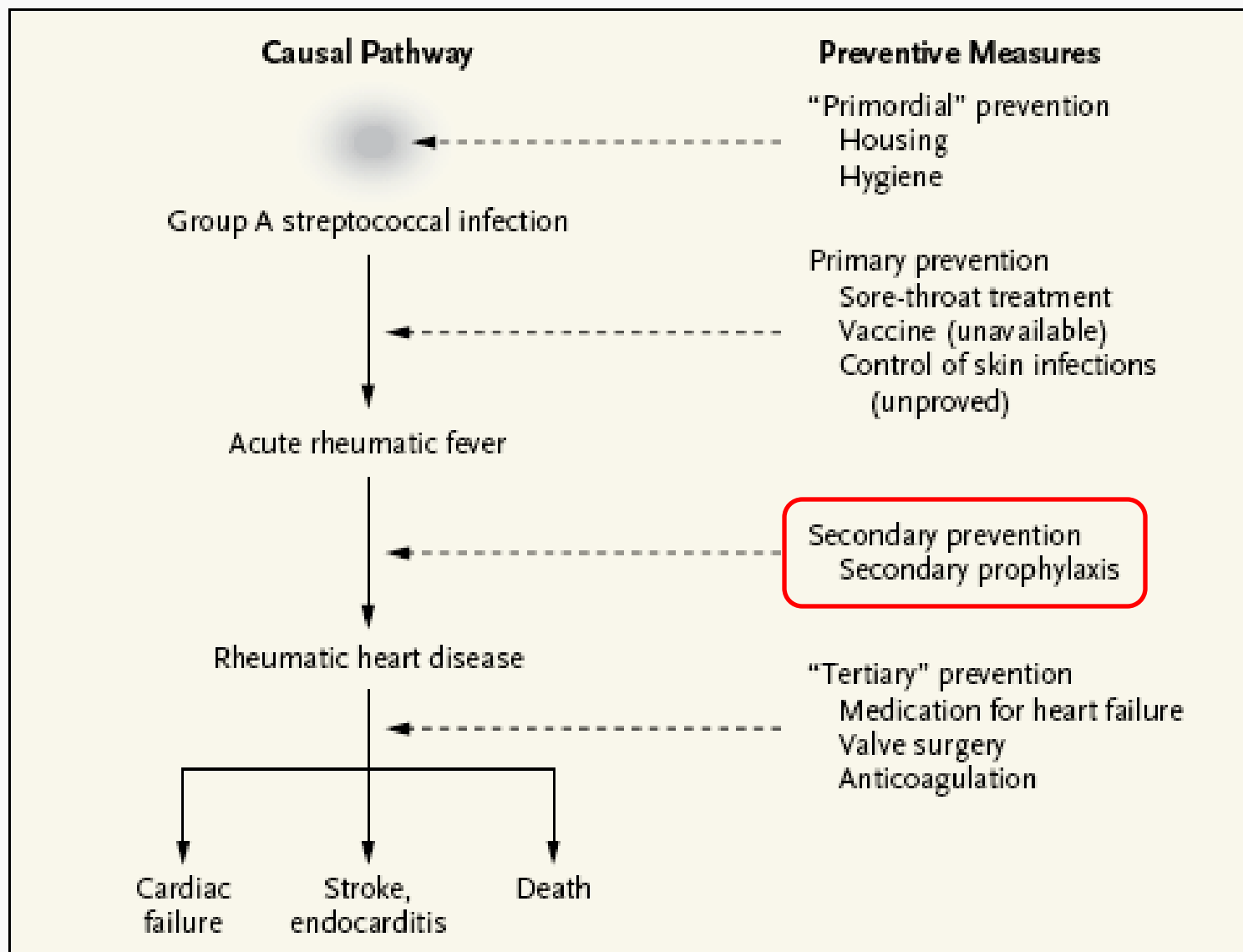


Treatment of Acute RF

Drug	Dose	Freq	Route	Duration
Benzathine Penicillin G	< 27 kg: 600 000 IU > 27 kg: 1,2 mil IU	Stat	IMI	Stat
Pen VK	50 – 100 mg/kg/day	qid	po	10 d
Clindamycin*	20 mg/kg/d (max 1.8 g/d)	tds	po	10 d
Erythromycin*	< 27 kg: 250 mg > 27 kg: 500 mg	qid	po	10 d

* If allergic to Penicillin

AHA Guidelines *Circulation* March 24, 2009



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Follow-up after Acute RF

- Notify
- Prophylaxis plan
- Repeat ECHO after 3 – 6 mths
 - Valve damage is progressive
 - Often clinically silent!
 - Mocambique: 10 x more RHD diagnosed with Echo than clinically

RF prophylaxis

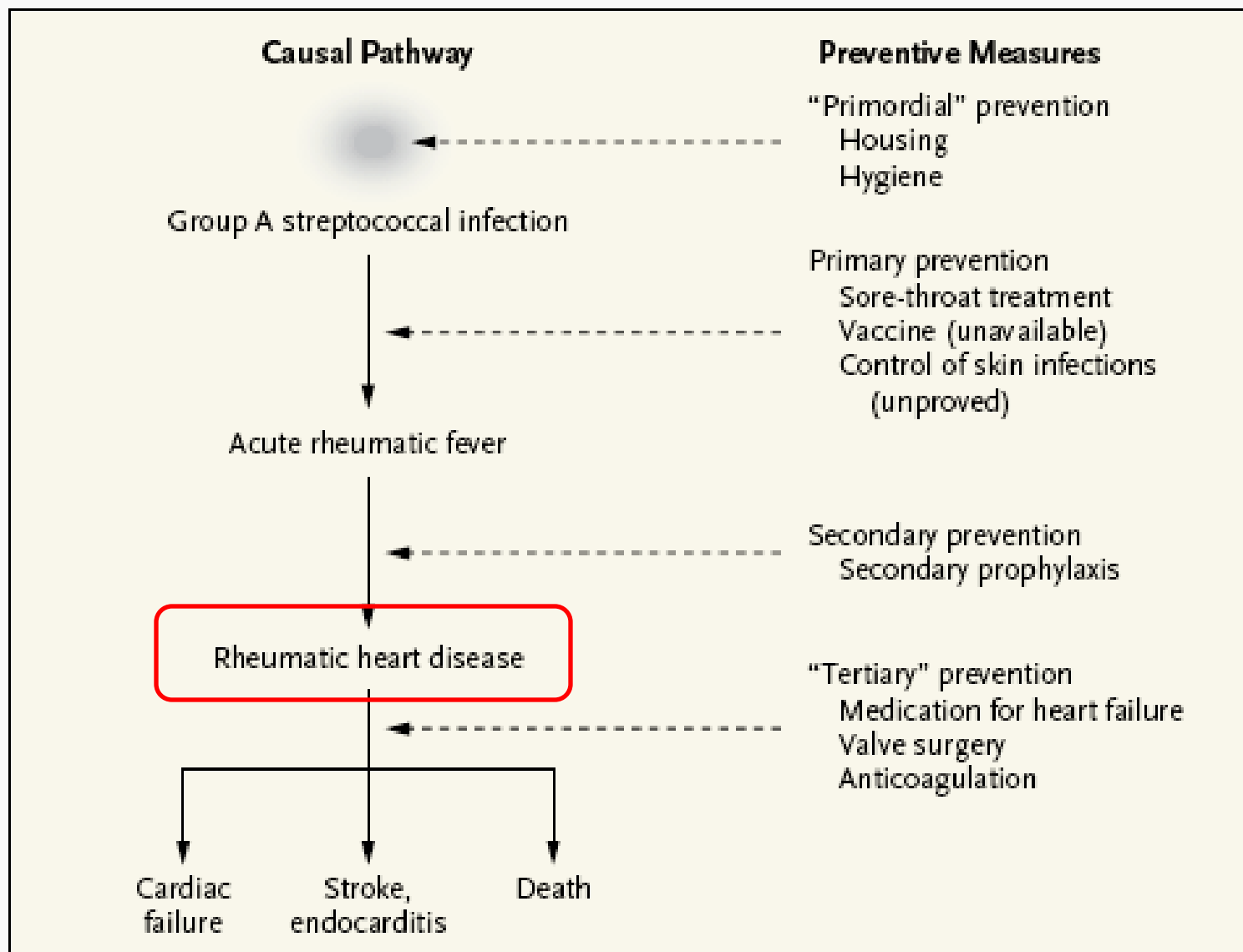
AGENT	DOSE	ROUTE
Benzathine Penicillin G	< 27 kg: 600 000 IU > 27 kg: 1,2 mil IU every 3 – 4 weeks	IMI
Pen VK	250 mg bd	PO
Sulfadiazine*	< 27 kg: 0,5 g daily > 27 kg: 1,0 g daily	PO
Erythromycin*	250 mg bd	PO

* If allergic to Penicillin

Duration of Secondary Prophylaxis

CATEGORY	DURATION
1. CRHD with valve replacement / repair	Lifelong
2. RF with carditis and persistent valvular disease	≥ 10 yrs after last ARF episode or to age 40 yrs (or lifelong*)
3. RF with carditis, no residual valvular disease.	10 yrs or until age 21 yrs (whichever longer)
4. RF, no carditis, no valvular disease.	5 yrs or until age 21 yrs (whichever longer)

* If in high contact occupation



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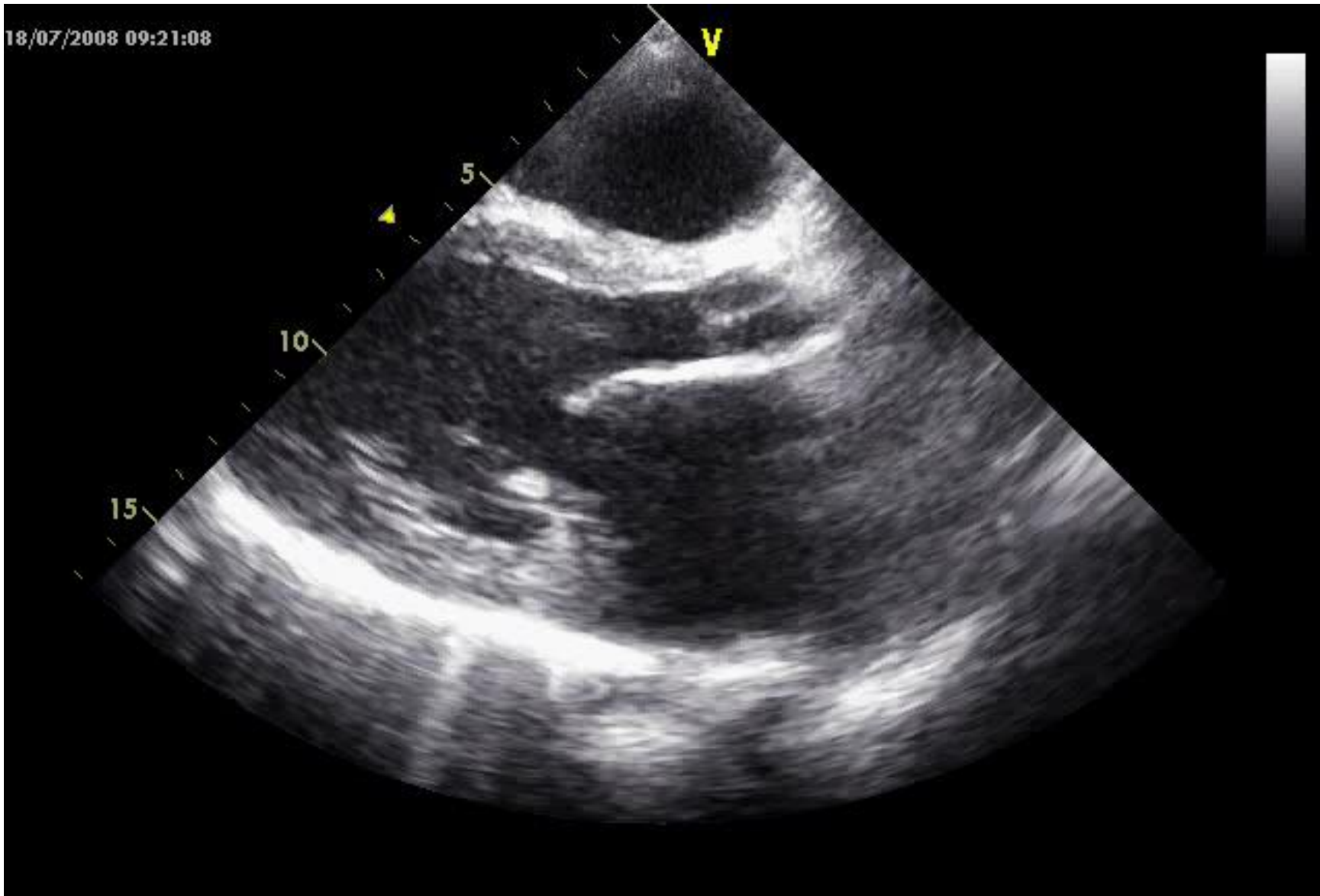
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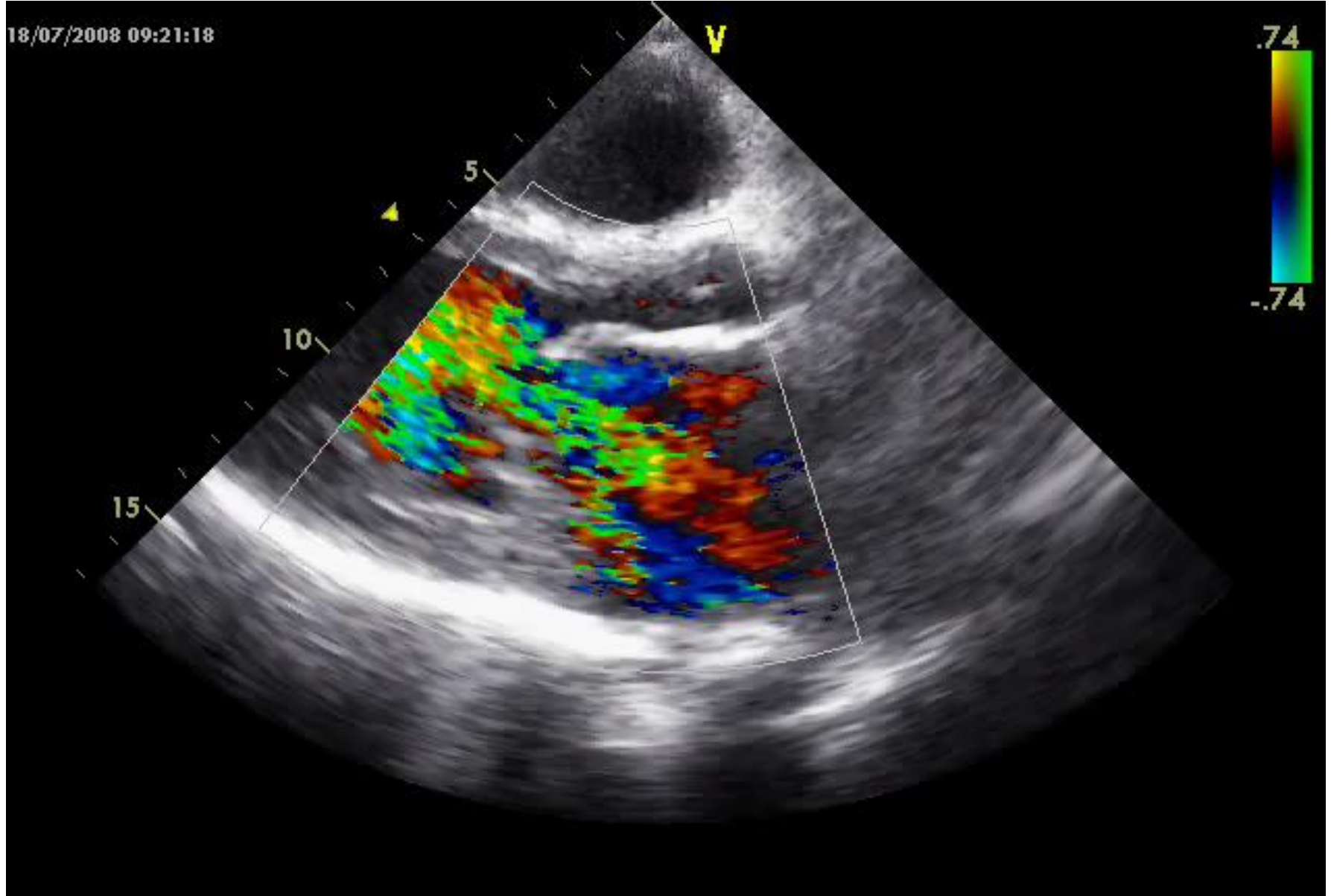
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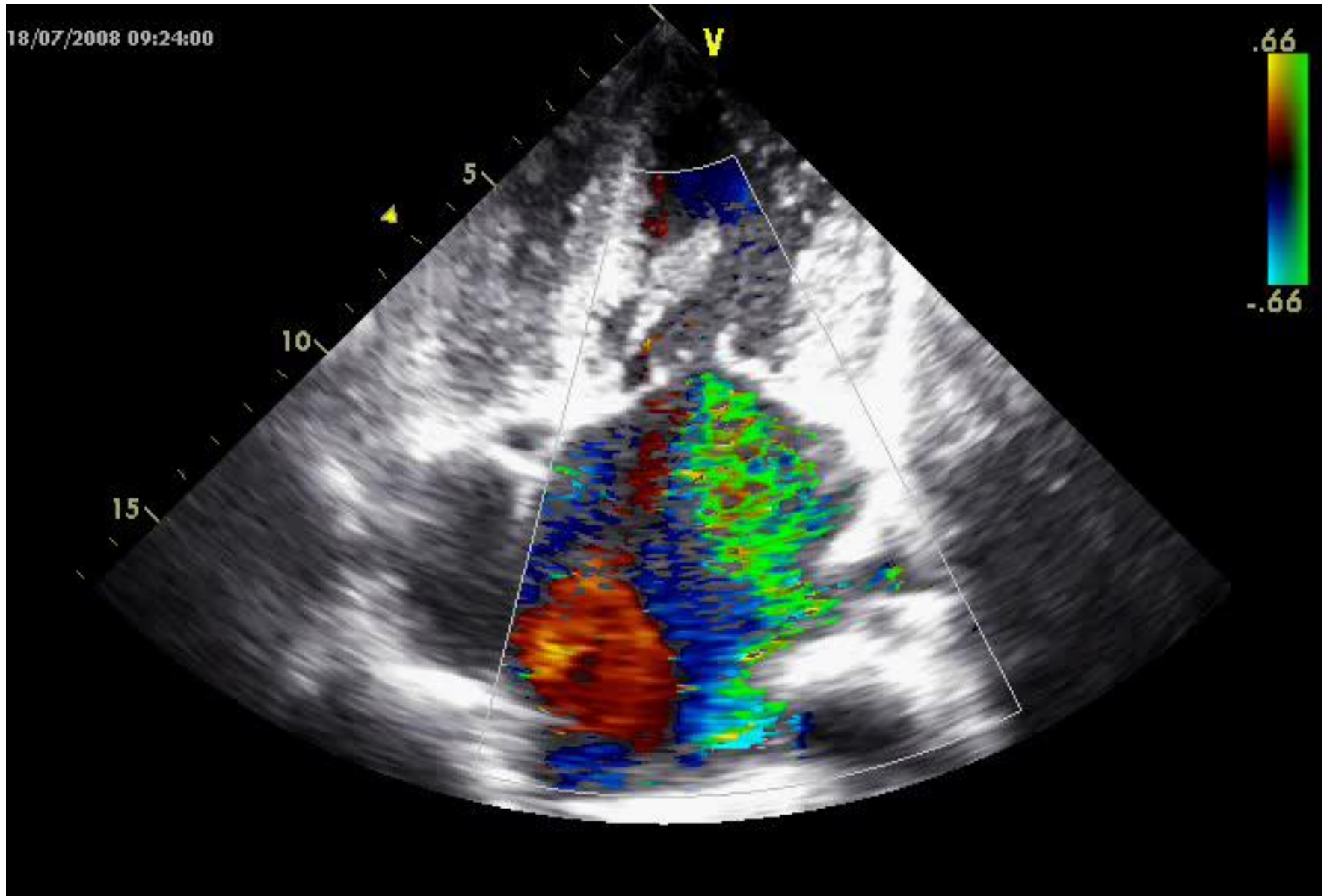


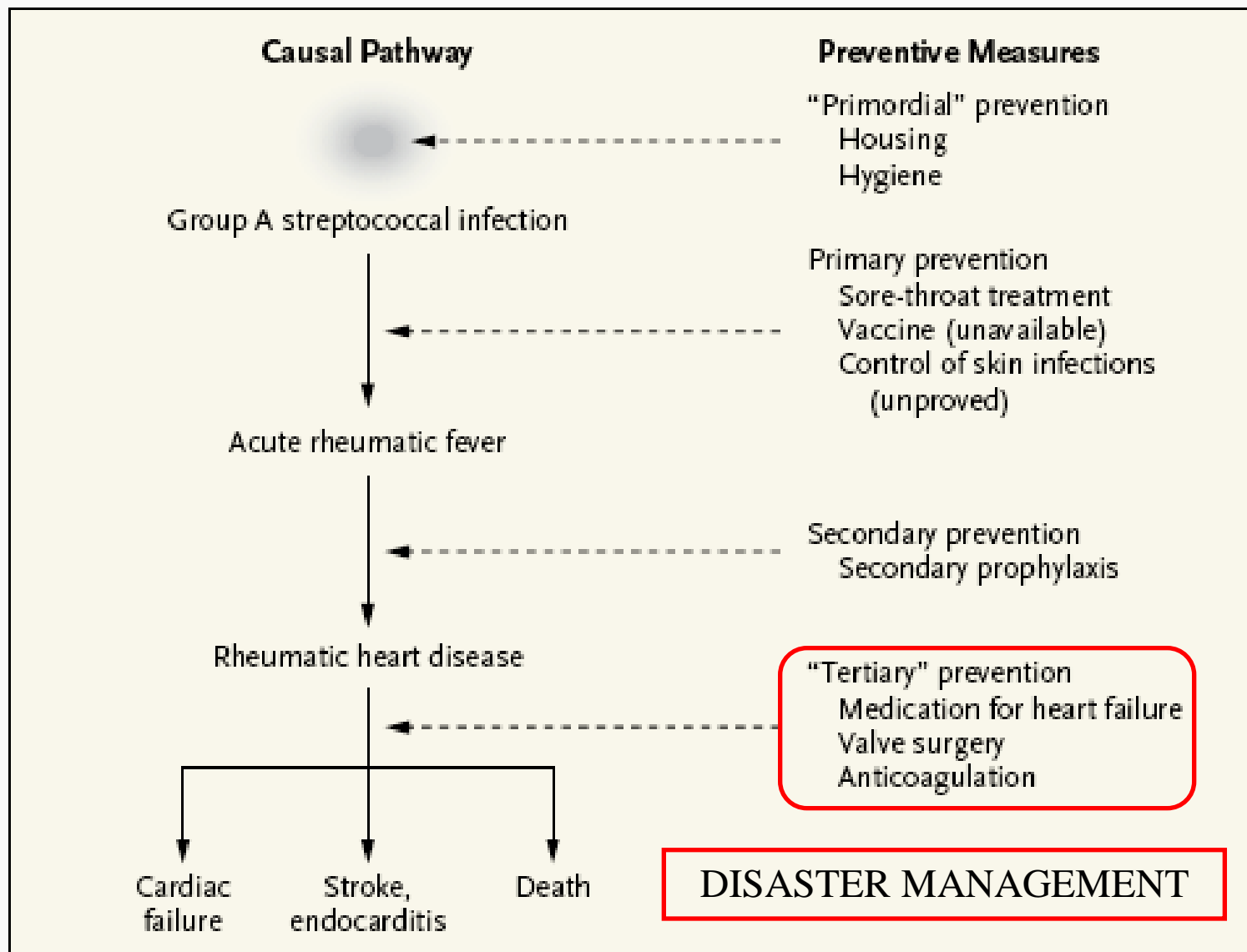
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Potential Preventive Measures for Rheumatic Fever and Rheumatic Heart Disease.

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Tertiary Prevention

Management of chronic RHD:

- FOLLOW UP!
- Ensure COMPLIANCE!
- Watch for complications
- Surgery when needed
- ? Careers
- ? Pregnancy

Compliance

Typical prescription:

- Lasix 20mg tds po
- Slow K 1 tab bd po
- Digoxin 0.125mg daily po
- Capoten 12.5mg tds po
- Pen VK 250mg bd po
- Warfarin 5mg daily po

Could you do it?



Surgery

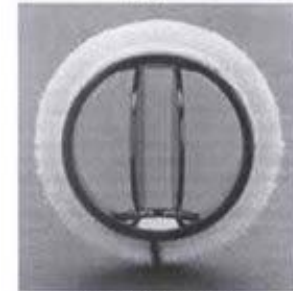
- Valve repair
 - Preferable
 - No Warfarin needed
- Valve replacement
 - Often inevitable
 - Need Warfarin lifelong!
 - Repeated every 15 – 20 yrs



a - upper left



b - upper right



c - mid left



d - mid right



e - lower left

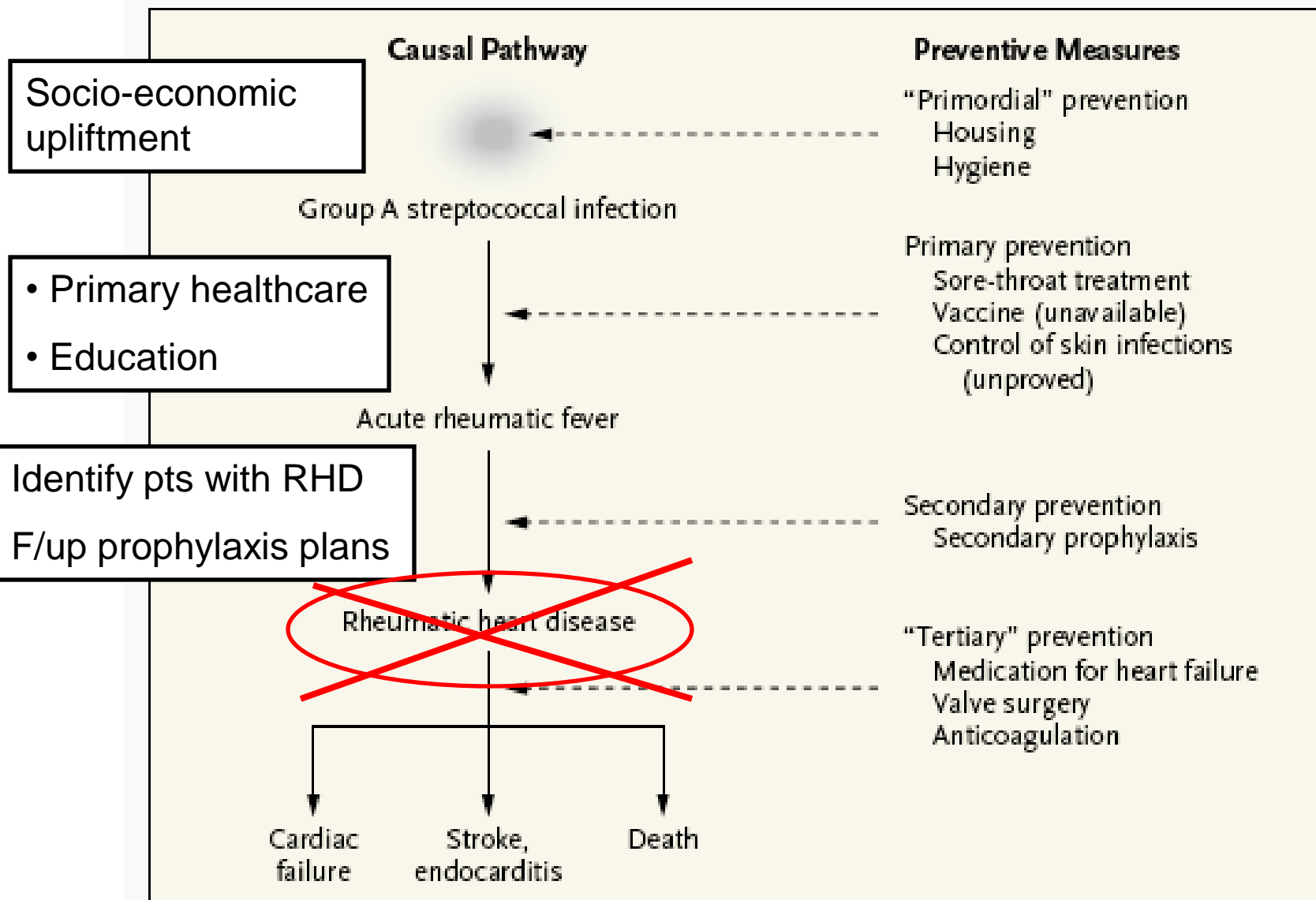
Pregnancy?

- High risk for mother with heart disease
- Warfarin is teratogenic



Fetal Warfarin Syndrome: infant with hypoplastic nose, flat face and low nasal bridge as well as altered calcification (Smith 1982).

- PREVENTABLE disease
- Children still die of this in SA
or
survive with debilitating heart disease
- SBAH: \pm one valve replacement per month



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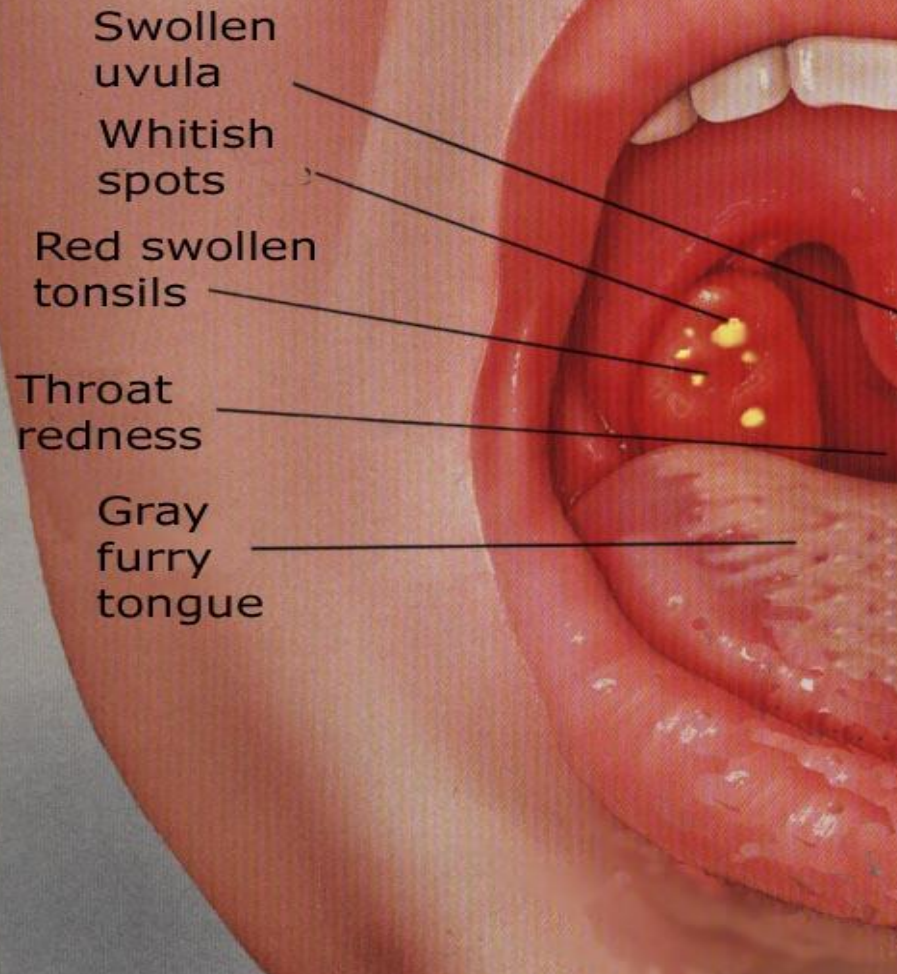
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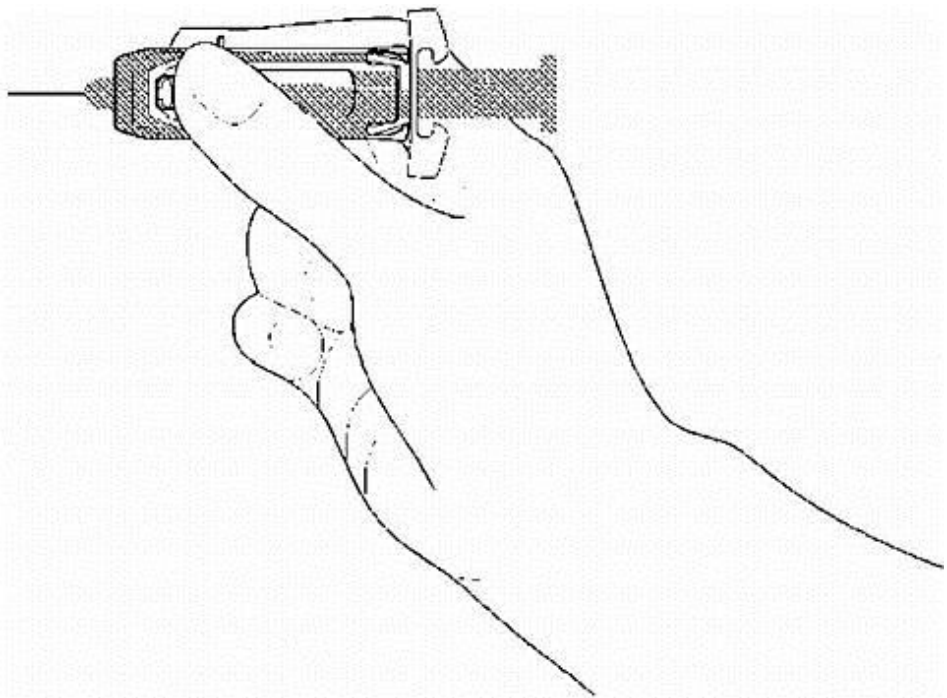
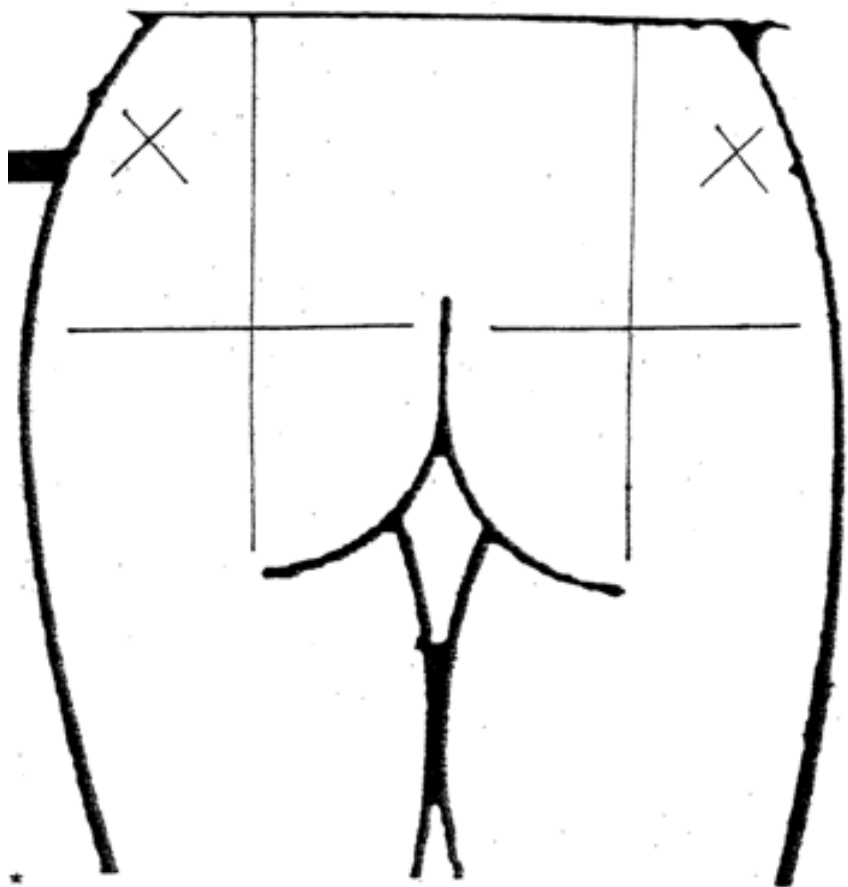
REMEMBER

Prevention is better than cure!

Bacterial

Come to the Health Center





The bold and the Bacterial

