RHEUMATIC HEART DISEASE:

- **Definition** – autoimmune; progressive; incurable heart disease
- 30-45% of acute disease progresses to chronic.
- **Kenya’s rheumatic belt** – North-rift; Kericho; Maasai Mara; Kisii
- **Prevention** – primordial (interventions before disease); primary(address causes and risk factors); secondary
- Clinical decision rule (for antibiotics use) – a 3 variable cumulative score
- **Laboratory test** – throat culture – high specificity and sensitivity; rapid antigen titers – high specificity; ASOT - rising titers.
- **Strategic approaches for primary prevention** – treat all sore throats is useful in resource limited setting but antibiotic abuse is possible; advocacy and education;
- **Vaccine** - still in research; challenge being antigen mimicry and the fear of triggering autoimmune reactions
- **Surveillance** especially between (3 - 15) years; document the hotspots;
- **Counties** – preventive care; equipment and personel
- **Conclusion** – primary prevention is key.
CONGENITAL HEART DISEASE - CHD

- CHD - 5-8/1000 live births, higher in still births; 25% with critical congenital heart disease (CCHD). 2-3/1000 symptomatic in year 1 of life.
- Features – congestive heart failure; cyanosis; murmur; arrhythmias
- Classification – cyanotic and acyanotic.
- Transient circulation reveals disease
- Cardiac failure neonate – tachypnea; tachycardia; wheezing; hepatomegaly; extreme (cardiovascular collapse)
- Cyanotic – decrease blood flow to lungs; in neonates (hyperoxic test)
- Murmur in neonate – small VSD; obstructive lesions; flow murmur
- Critical congenital heart disease – duct dependent system blood flow; duct dependent pulmonary blood flow – start prostaglandin infusion
- Hypotrophic left heart – no benefit of prostaglandin; mortality imminent
- Aortic arch anomalies; tricuspid atresia; tetralogy of fallot; – prostaglandins useful
- Early diagnosis via prenatal U/S – 25% picked; repeat post discharge examination on week 2 of life
- Diagnosis – clinical exam; blood pressure; ecg
Pulse oximetry role in cardiac disease

- Sensitivity in serious CHD >72% sensitive
- Reduces risk of undiagnosed CHD by at least 75%
- **Drawback** – doesn’t detect all cases especially where there is no cyanosis; low specificity
- **Screening** – after 24 hours of birth – right hand and either foot and repeat before discharge. If < 90% that is a positive screen and difference > 3%
- **Negative screen** > 95% with a difference of (hand and foot) < 3% - negative screen
- **Positive screen** - is it respiratory or cardiac
- **Limitations** – SPO2 at 24 hours 97-98%; interfered with
- Sustainable desaturation consistent with CCHD.
- **Conclusion** – SPO2 complementary test in all newborns
INFECTIVE ENDOCARDITIS (IE) & PROPHYLAXIS

• **Definition** – inflammation of endocardial tissues

• **Algorithm** – clinical suspicion – modified duke criteria – IE – valve affected (native vs prosthetic) – echo; imaging; CT

• **Prevention** – hygiene measures especially oral and cutaneous; antibiotics for high risk procedures on these patients; aseptic technique during invasive procedures

• **Good oral hygiene is superior to antibiotic prophylaxis.**

• **High risk cardiac conditions** – patients with prosthetic valve/material; previous IE; CHD; lifelong in patients with residual mitral regurgitation or shunts; hypertrophic cardiomyopathy;

• **Recommendations** – dental procedures;

• **Not recommended** – dental extraction; respiratory and GIT procedures; skin and soft tissue procedures

• **Antibiotics of choice** – amoxicillin or ampicillin; if allergic – clindamycin

• **Treatment** – PVE 6 Weeks NVE 2-6 weeks