

PREGNANCY & HEART DISEASE

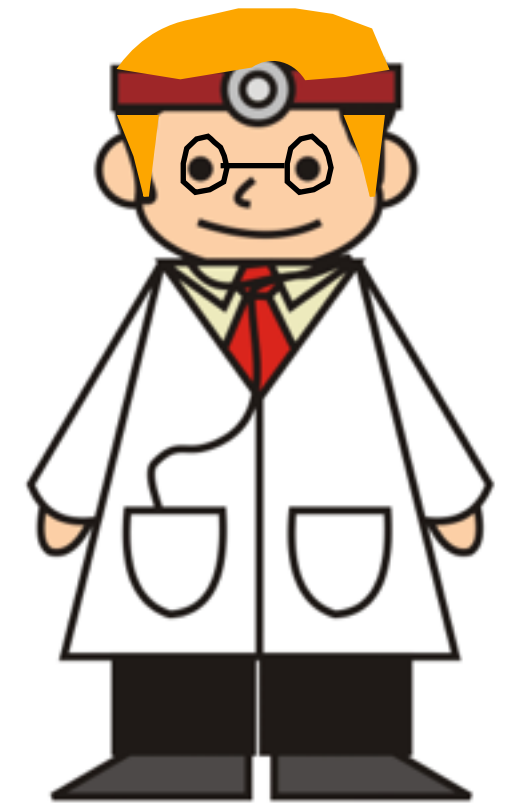
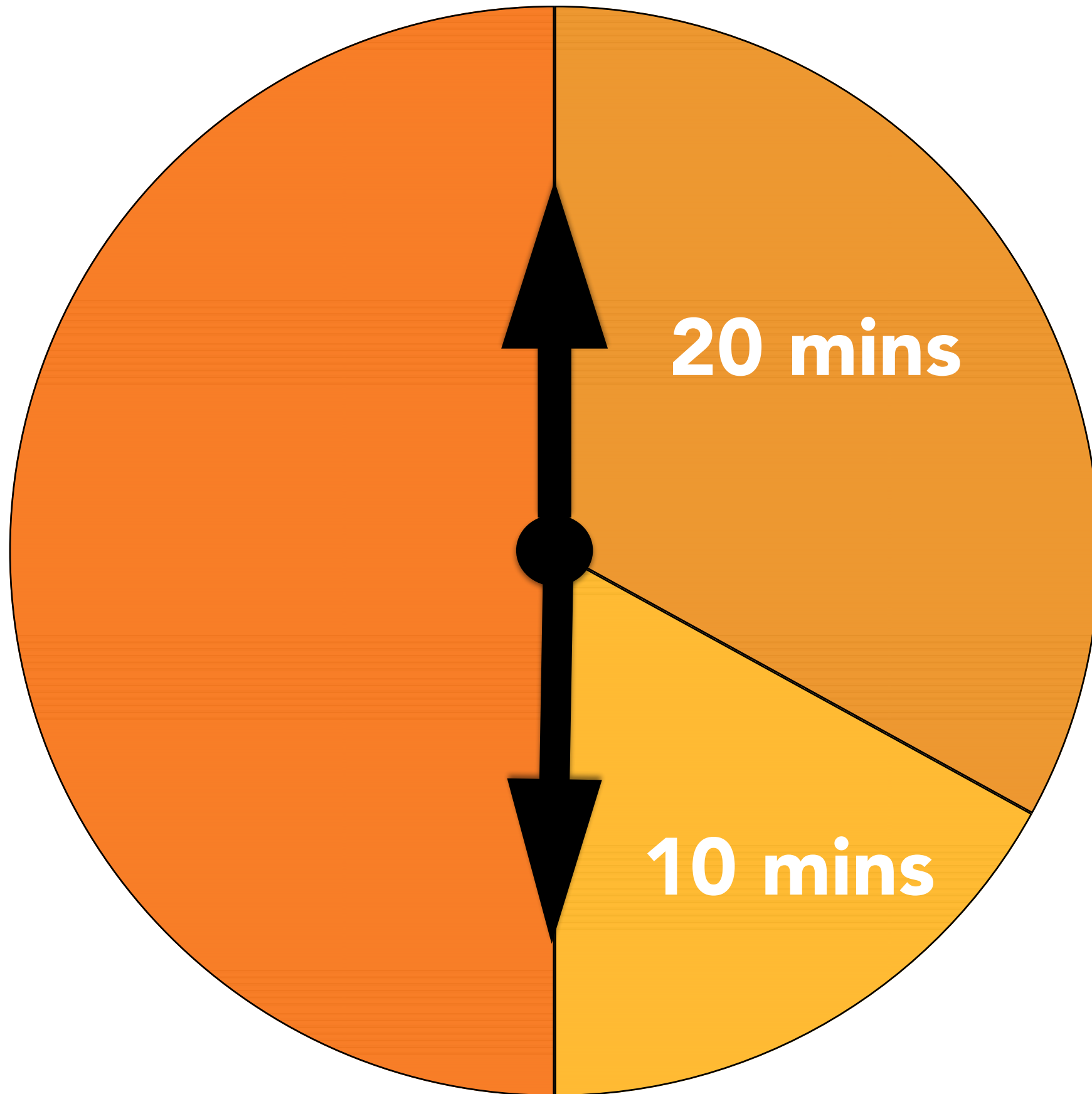


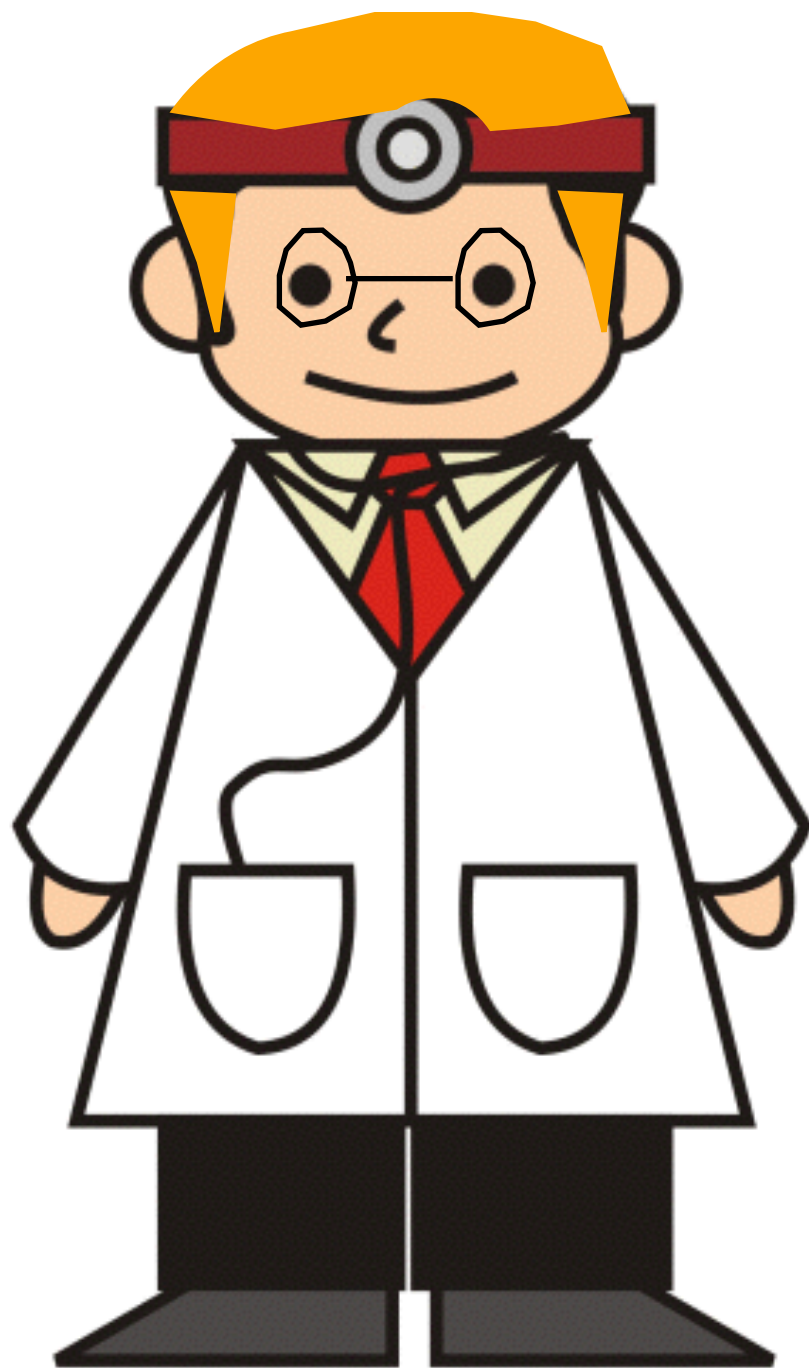
DR JONATHAN WINDRAM











The increasing problem of heart disease in pregnancy

What happens to the heart in pregnancy?

Who is at risk of problems during pregnancy?

How do we reduce the risk of developing problems in pregnancy?

Contraception what is safe for me as a heart patient

THE
INCREASING
PROBLEM OF
HEART
DISEASE IN
PREGNANCY



Cardiac Disease
affects



approximately
4%
of pregnancies

Maternal death rates rose in Canada, U.S. over 20 years

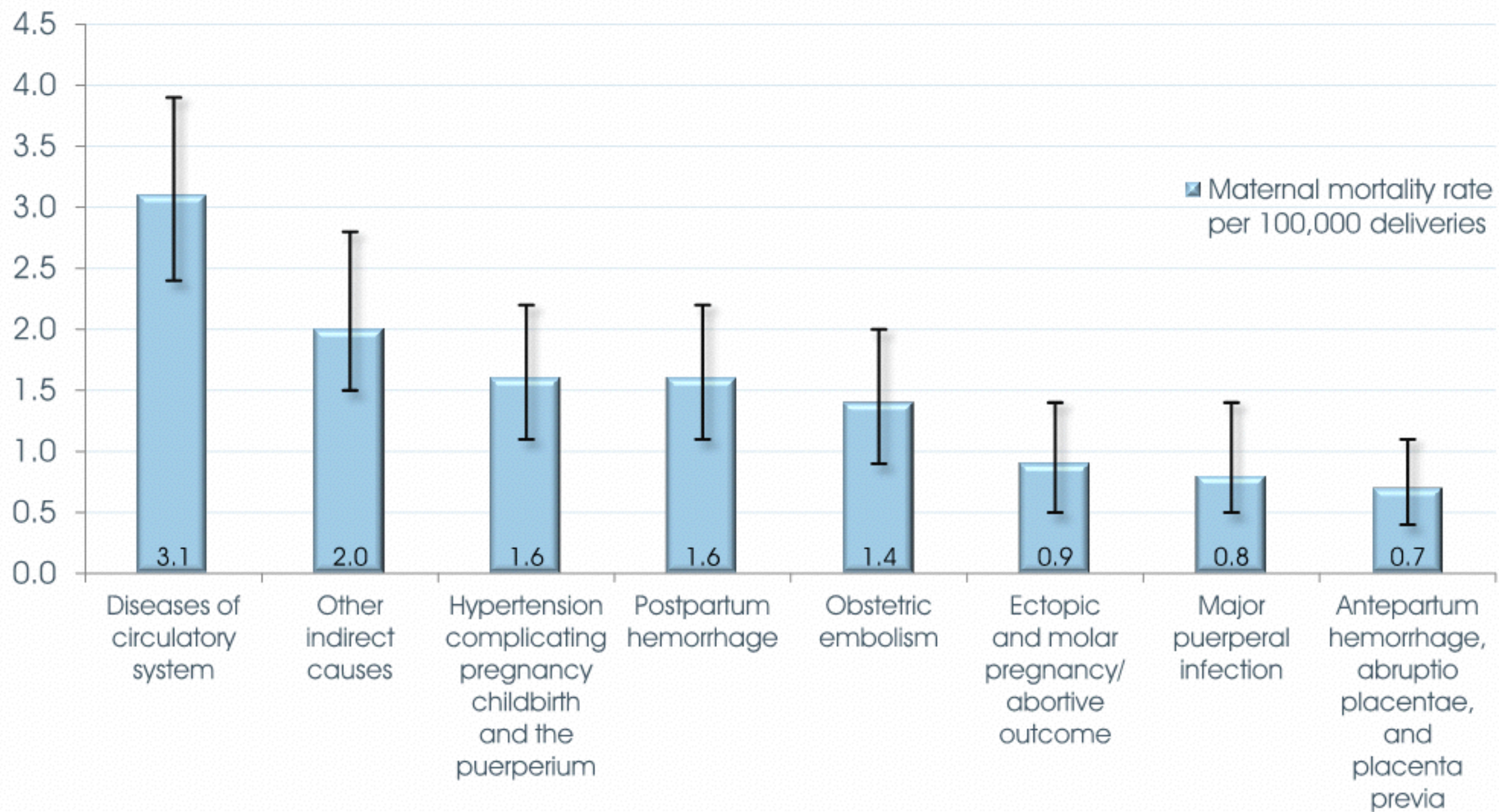
In Canada, deaths rose from 6 to 11 per 100,000 births between 1990 and 2013.

Thomson Reuters Posted: May 06, 2014 4:57 PM ET | Last Updated: May 06, 2014 4:57 PM ET

The Telegraph

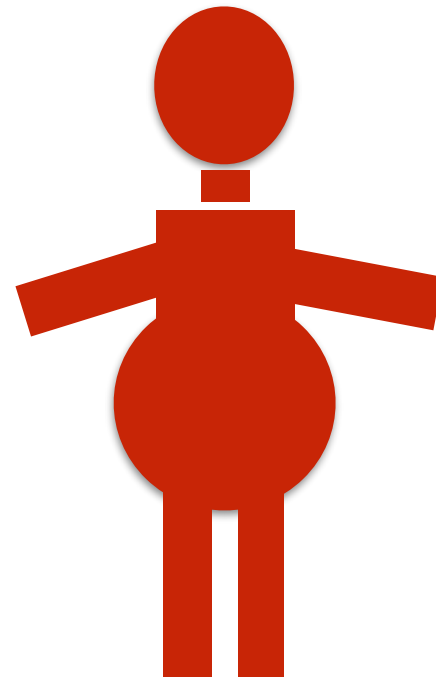
Deaths in childbirth rise amid struggle with complex cases

London, UK, 29th April 2012



Age

Obesity



**Cancer
survivors**

ACHD

WHAT HAPPENS TO THE HEART IN PREGNANCY?

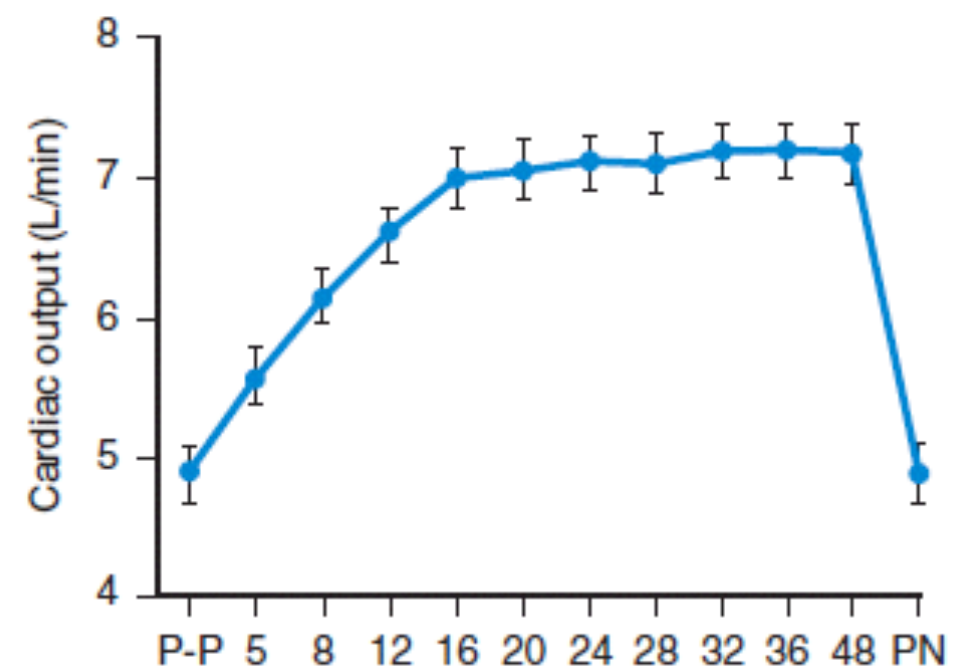
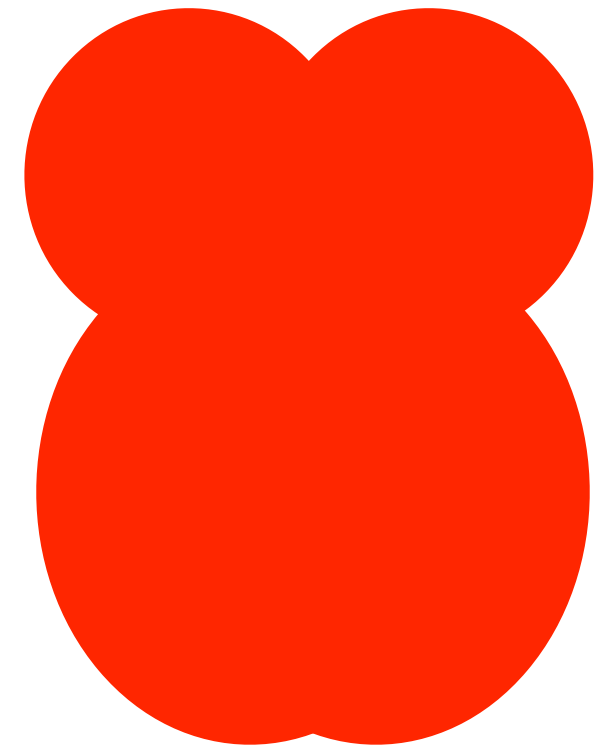


Blood volume increases 40-45%

Heart rate increases 10-20%

Blood pressure (stable or falls)

Pressure in the veins in the legs
increases



During labour the uterus pumps
300-500 ml of blood into the
circulation

The amount your heart works
increases by

25% in 1st stage
50% in second stage
80% delivery (vaginal)

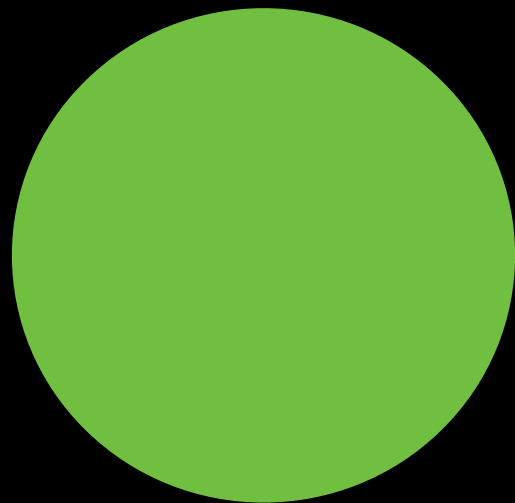
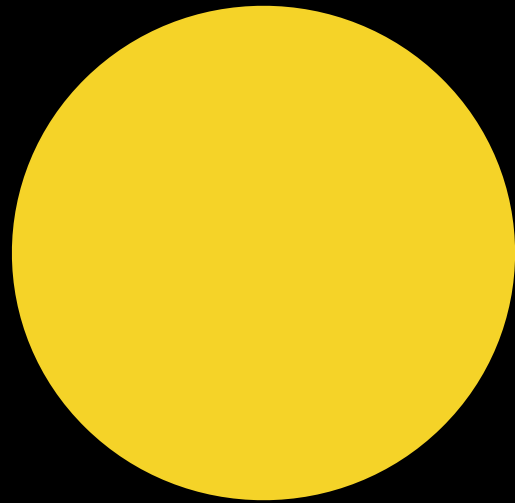
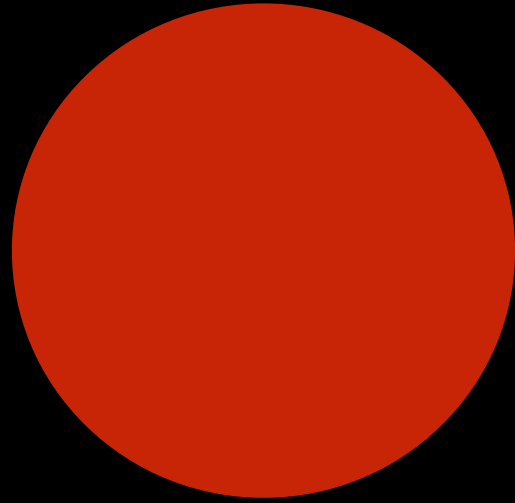
You lose blood during delivery

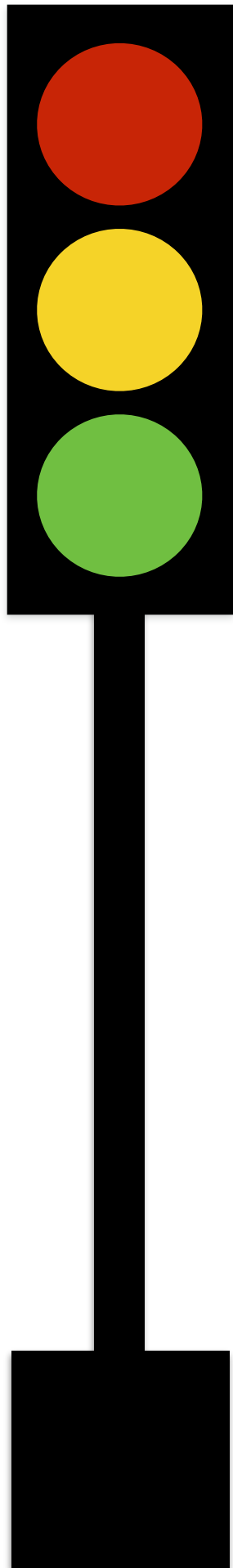
With a normal delivery this can be
300-400 ml

With a Caesarean section this can be
more 500-800 ml



WHO IS AT
RISK?



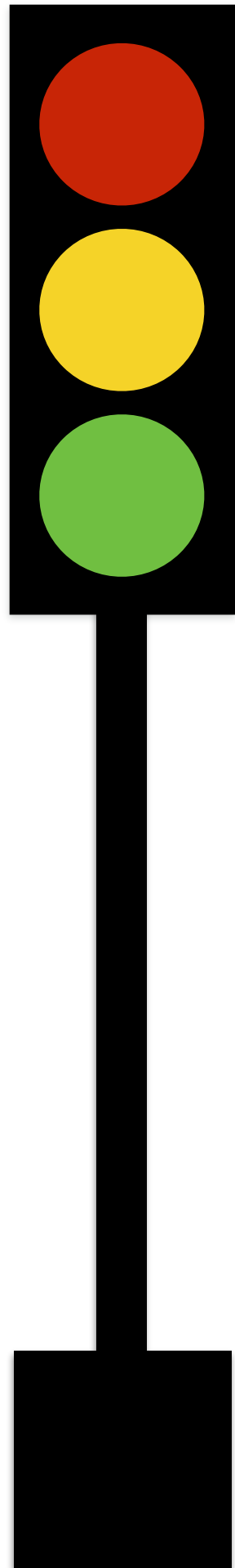


Low risk (mortality $\leq 1\%$)

Unoperated small/mild:
Pulmonary stenosis
Atrial or ventricular septal defects
Patent arterial duct

Most leaky heart valves

Most successfully repaired:
Septal defects
CoA repaired
Fallot



**Significant risk
(mortality 1-10%)**

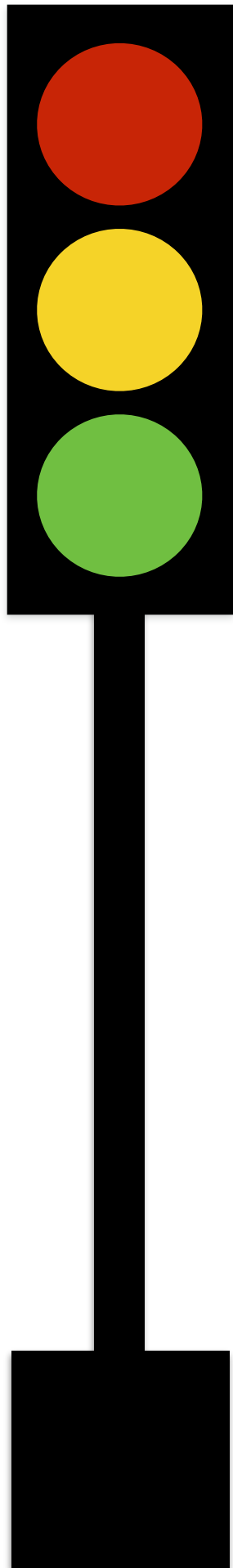
Mechanical heart valve

Ischemic heart disease

Right ventricle as the main pumping chamber of
the heart

Cyanotic heart disease with no pulmonary
hypertension

Fontan repair



High risk/contraindicated (Mortality >10%)

Significantly elevated pressure in the blood vessels of the lungs (Pulmonary hypertension)

Poor heart pump function

Enlarged aorta (Aortic aneurysm)

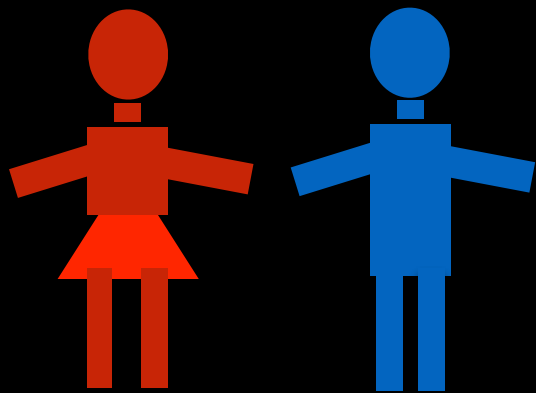
Severe obstruction on the left side of the heart
(eg. Aortic or Mitral valve stenosis)

HOW DO WE
REDUCE RISK?



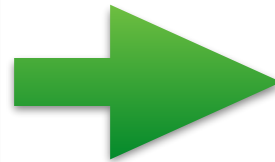


Pre-conception
visit



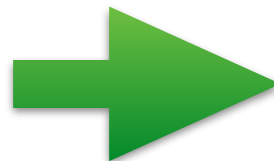
Pre-conception counselling

Risk to mother
Effects of pregnancy on
mother's heart



Whether risks will change with
time or treatment

Risks to baby
Baby's growth and
development



Avoidance of drugs harmful to
baby
ACEi, ARB, Statins

Genetic counseling

Alternative options : adoption,
surrogacy

Labor – heart and obstetric
considerations

Antibiotic prophylaxis

Postpartum care

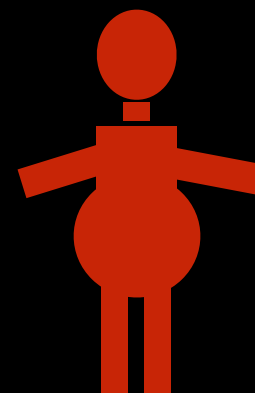
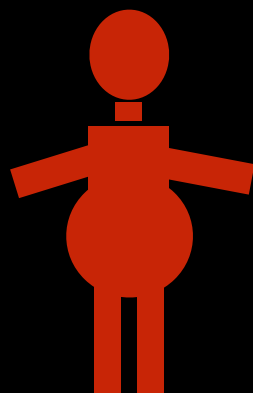
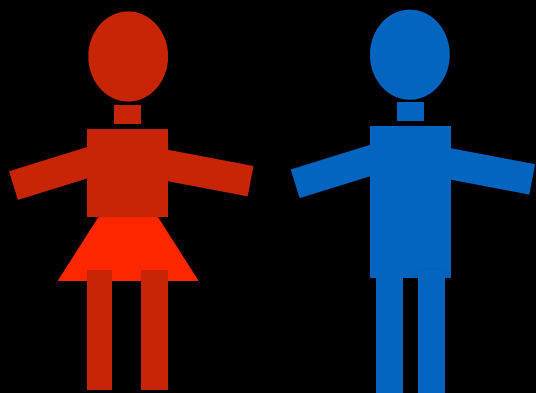
Contraception

Plan for when you become
pregnant (who to contact?)



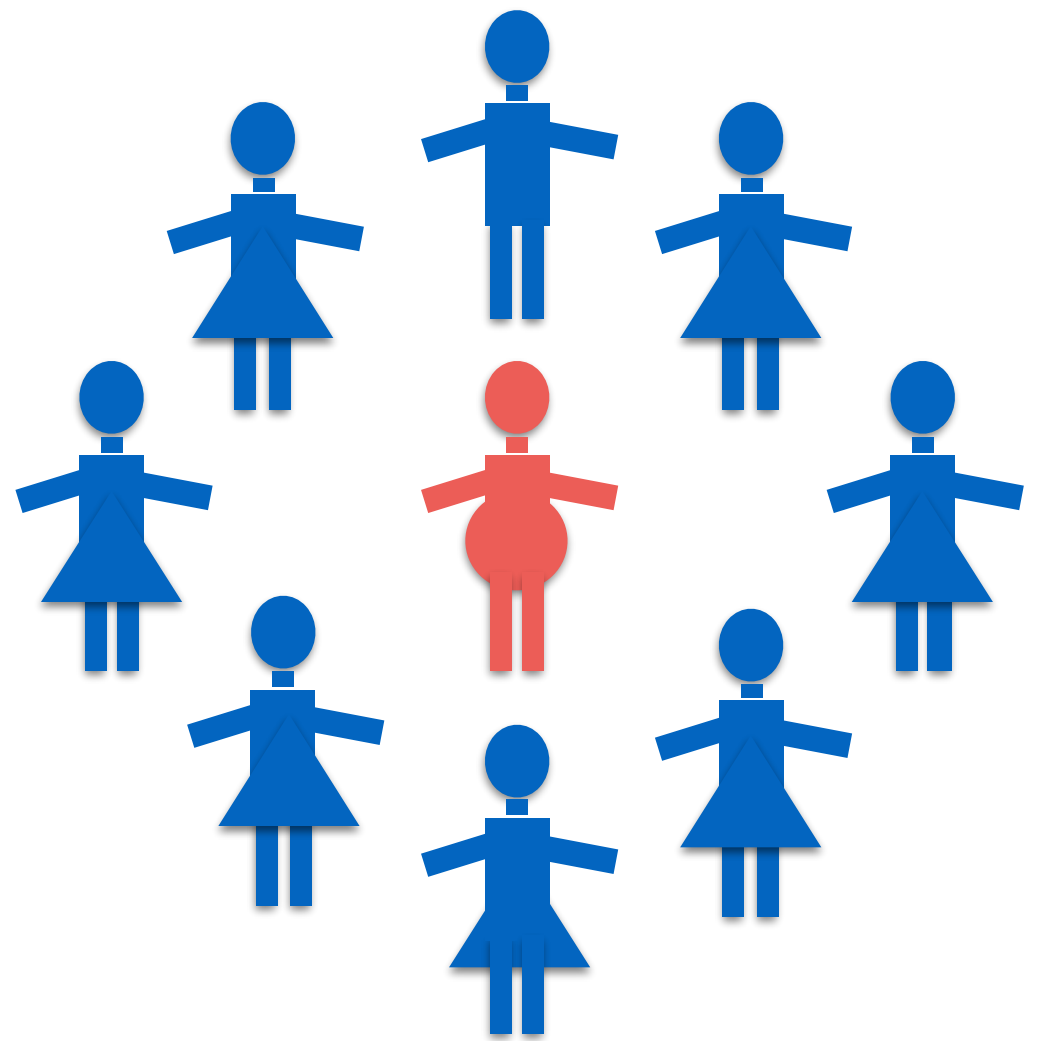
Pre-conception
visit

Maternal health clinic visits



Multidisciplinary Care

Cardiology
Obstetric Medicine
Maternal Fetal Medicine
Obstetrics
Anesthesia
Pharmacy
(anticoagulation service)

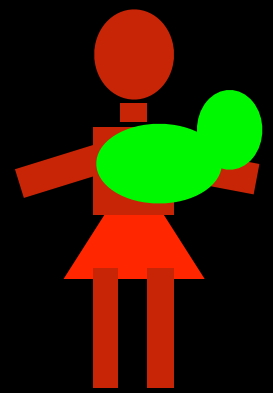
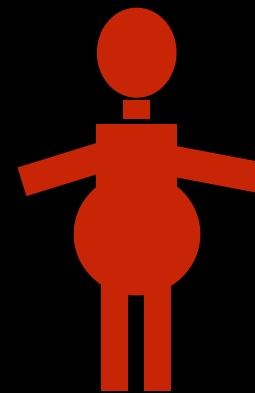
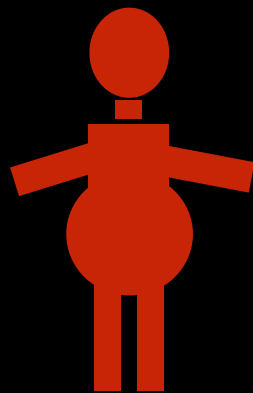
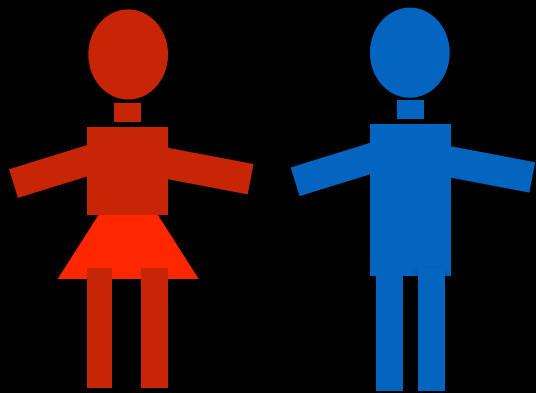




Pre-conception
visit

Maternal health clinic visits

Post partum
visit

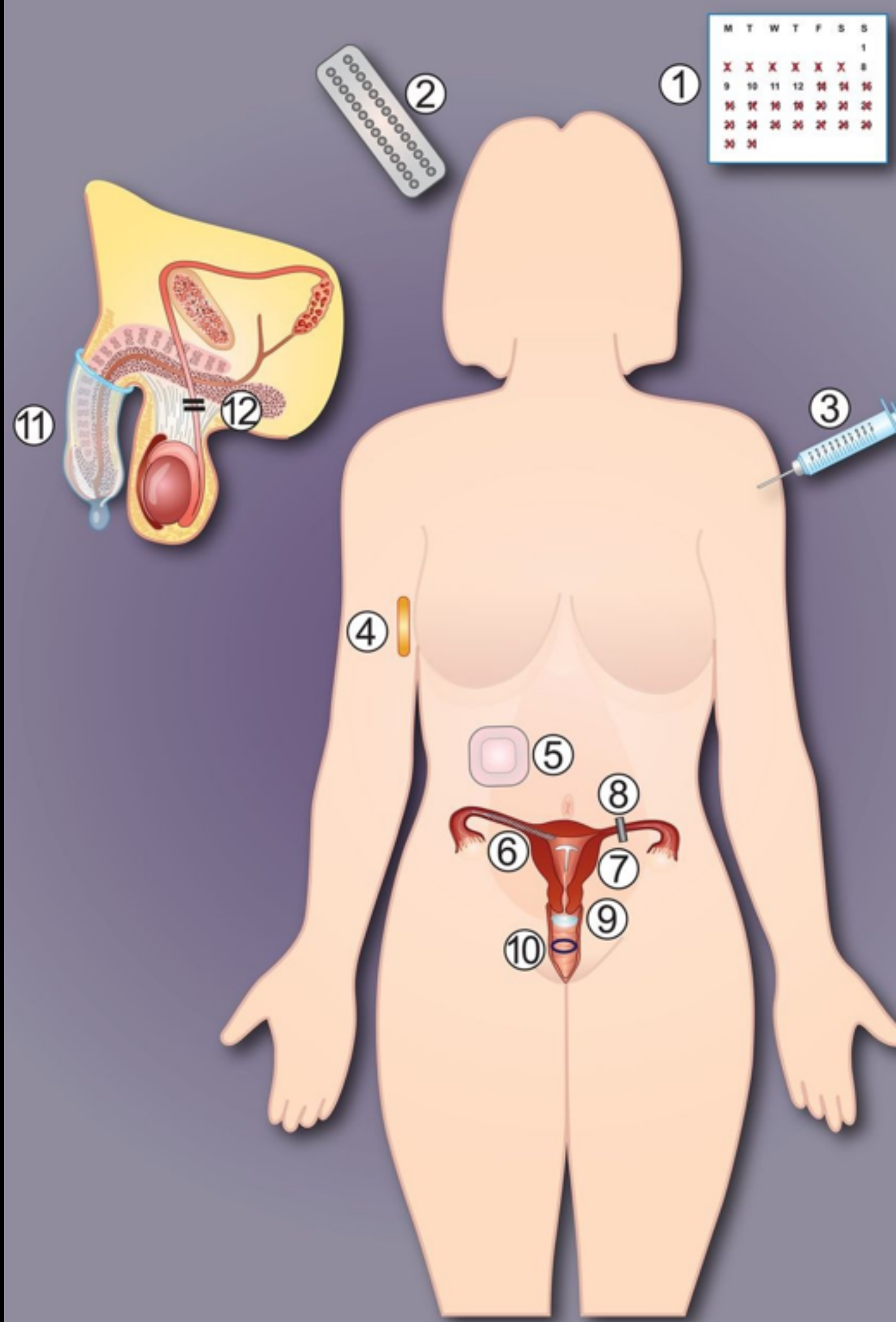


CONTRACEPTION
WHAT IS SAFE FOR
ME?



1. Safe period,
2. oral contraceptive (COC or POP)
3. injectable (DMPA)
4. implant,
5. patch,
6. hysteroscopic tubal occlusion,
7. intrauterine contraceptive device
8. tubal ligation
9. diaphragm
10. vaginal ring
11. male condom
12. vasectomy

Jolien W. Roos-Hesselink et al European
Heart Journal doi:10.1093/eurheartj/ehv141

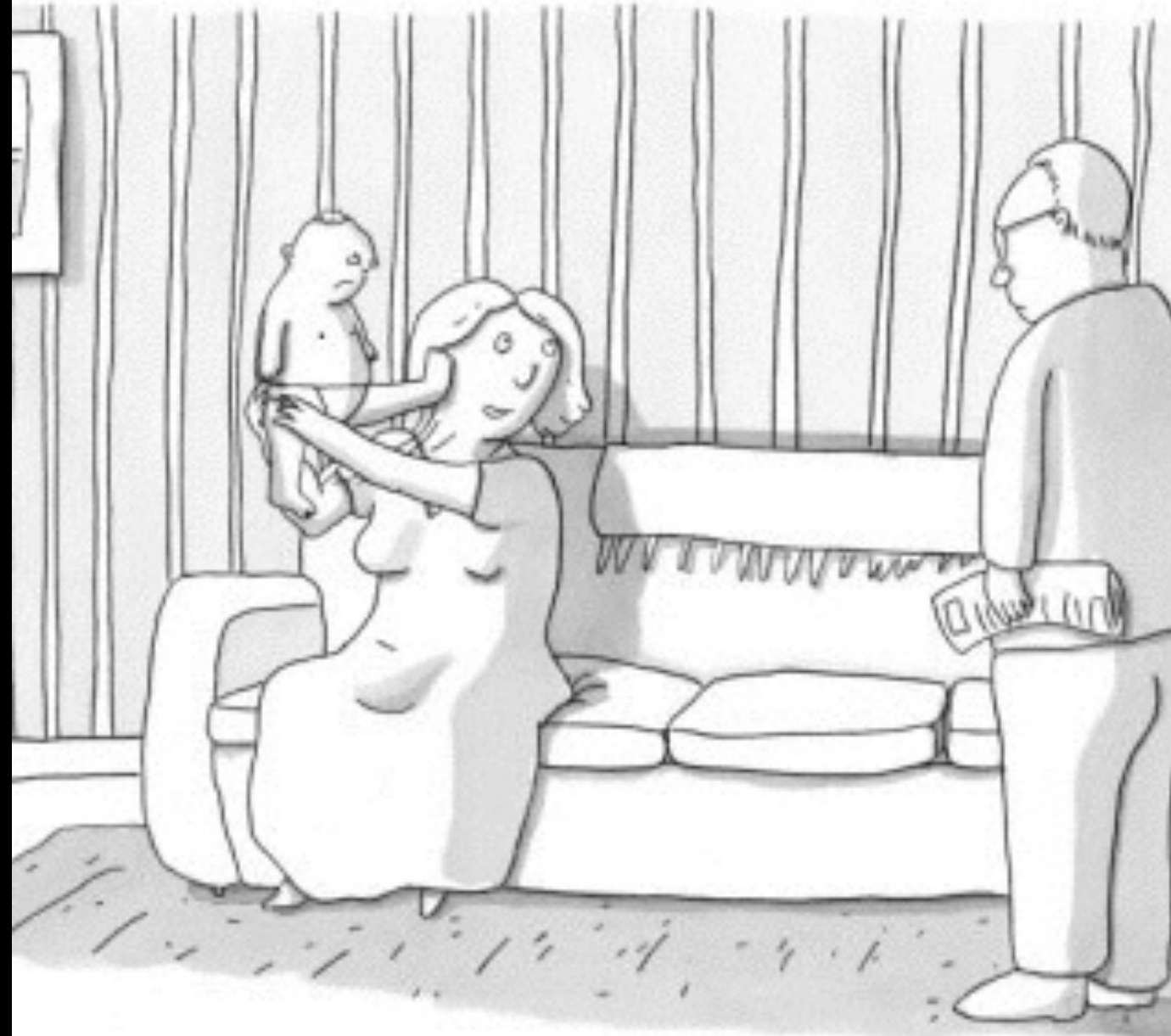


Early, personalized approach
Consider what heart medications using
Type & severity of the heart problem
Input from YOU, obstetrician, cardiologist

Estrogens increase risk for venous thrombus
therefore are not generally recommended for women with heart
disease

Progestosterone-only methods
do not appear to increase the risk for venous thrombosis,
but have limited efficacy & may need to be used in combination
with another type of contraceptive method

TAKE HOME MESSAGES



Kanin

"I can feel the baby kicking."

COLL

THE HEART AND BODY GO
THROUGH MANY CHANGES
IN PREGNANCY

MOST WOMEN WITH
CONGENITAL HEART
DISEASE CAN GO THROUGH
PREGNANCY WITHOUT
CONCERN

A SMALL NUMBER OF
PATIENTS NEED CLOSE
FOLLOW UP
COMPLEX CHD
METAL VALVES

WE ARE HAPPY TO SEE YOU
PRIOR TO A PREGNANCY &
WILL FOLLOW YOU IN
PREGNANCY



Any Questions?

