



Queen Charlotte's
& Chelsea Hospital

Department of Obstetric Anaesthesia

TWO HEARTS ON THE LINE: OFF-PUMP CORONARY ARTERY BYPASS GRAFT IN PREGNANCY

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👤 Patient Profile

- 27-year-old woman
- Known **Familial Hypercholesterolaemia**
- History of coronary artery disease with stent at age 15

👂 Presentation:

- Unstable angina at **17 weeks' gestation**
- Severe **narrowing of right coronary artery**

🧠 Decision:

- Termination declined
- Multidisciplinary team opted for off-pump coronary artery bypass grafting (**OPCABG**)

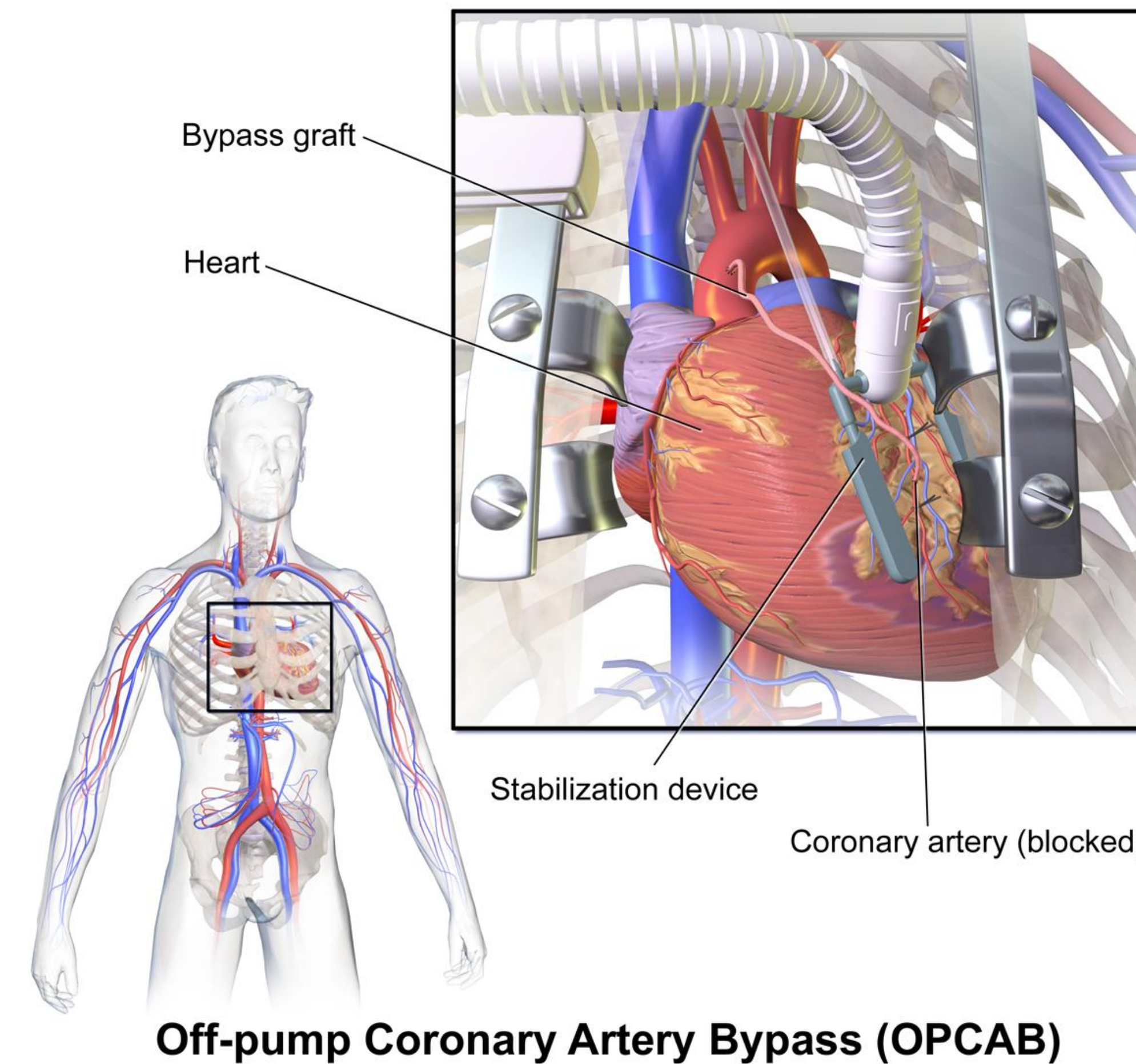
🔑 Procedure:

- 2-vessel OPCABG at **19 weeks**
- No complications
- Fetal heartbeat confirmed post-op

👶 Delivery:

- Vaginal delivery planned
- **Category 2 caesarean delivery** for fetal distress
- Both mother and baby **discharged on day 3**

Discussion



Traditional coronary bypass: Disadvantages:

- ↓ Coagulation
- ↓ Organ perfusion
- ↓ Temperature regulation
- Loss of pulsatile flow → ↑ placental resistance
- Cooling/rewarming → uterine contractions & ↓ perfusion

Conclusion

- OPCABG is a viable alternative to cardiopulmonary bypass (CPB) in pregnancy
- With careful planning, **positive maternal and fetal outcomes are achievable**
- As cardiac disease in pregnancy rises, awareness and preparation are key

Take-Home Messages

- 📌 Off-Pump surgery may reduce fetal risk
- 📌 Favor normothermic, pulsatile flow if CPB unavoidable
- 📌 MDT care is essential to optimise outcomes for mother and baby

Reference:

Patel A, Asopa S, Tang AT, Ohri SK. Cardiac surgery during pregnancy. Tex Heart Inst J. 2008;35(3):307-12. PMID: 18941609; PMCID: PMC2565548.