

Surgical Sciences

Discussion Points

- What distinguishes surgical science from clinical medicine or general biology?
- What skills (beyond scientific knowledge) are essential for surgeons?
- How has surgery changed over time: from ancient practices to robot-assisted procedures?
- What role do anatomy, imaging, and technology play in preparing for surgery?
- How do surgeons make decisions in high-pressure environments?
- What ethical dilemmas might arise in surgery? (e.g., risk vs benefit, informed consent, triage)

Have You Considered...?

- Watching real or simulated surgical procedures online to observe decision-making in action?
- Exploring how surgical training uses simulation, dissection, and virtual reality?
- Thinking about the emotional resilience needed to be a surgeon. How is it developed?
- Investigating how surgical procedures differ across the world (e.g., in low-resource settings)?
- Looking into how surgery intersects with other fields: engineering (robotics), AI (diagnosis), or even ethics and law?
- Writing a reflection on a case study: *What would you do as the lead surgeon in a complex or uncertain operations*

Further Reading & Exploration

- ☐ **Atul Gawande – *Complications and Better***
Honest reflections on surgery, medical training, and decision-making.
- ☐ **Henry Marsh – *Do No Harm and Admissions***
Memoirs of a brain surgeon exploring the moral and personal dimensions of the operating theatre.
- ☐ **Paul Kalanithi – *When Breath Becomes Air***
A neurosurgeon reflects on meaning, mortality, and being both doctor and patient.
- ☐ **Gabriel Weston – *Direct Red: A Surgeon's Story***
Written by a female surgeon, this book explores the drama and humanity of surgical practice.
- ☐ **The Royal College of Surgeons – [rcseng.ac.uk](https://www.rcseng.ac.uk)**
Great for career paths, case studies, and insight into the future of surgery.
- ☐ **YouTube / Video Resources:**
 - ☐ *BBC's Surgeons: At the Edge of Life* (real surgical teams under pressure)
 - ☐ *The Surgeon's Cut* (Netflix docuseries profiling global surgical pioneers)
 - ☐ *Doctor Mike / MedLife Crisis* – videos on surgery, ethics, and the NHS
 - ☐ Research the use of *laparoscopic surgery* and how it differs from open surgery
 - ☐ Look into *organ transplantation, prosthetics, or regenerative medicine* (e.g. 3D-printed organs)