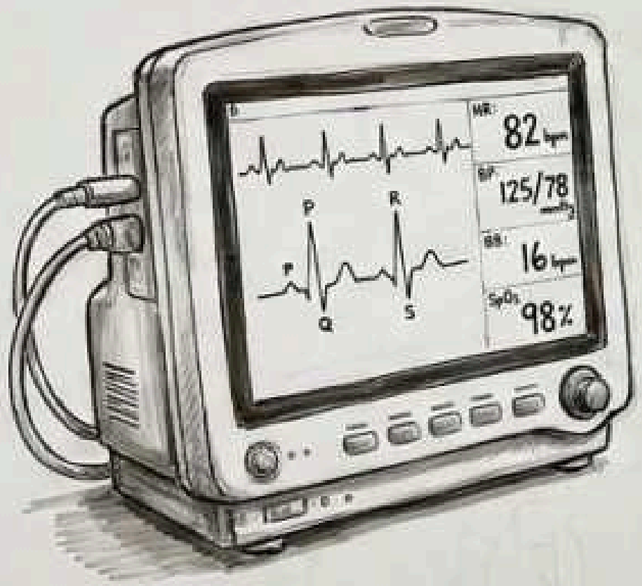
MED 542 B / Lecture 6

Recovery, Complications, and Enhanced Recovery

Topics covered include post-op care, pain relief, complications, ERAS, and surgical quality.

¶6.1



OR → PACU (Awake, Comfortable, Stable)

- → Ward (Routine surgery / low risk)
- → HDU/ICU (Major surgery / High-risk patient)

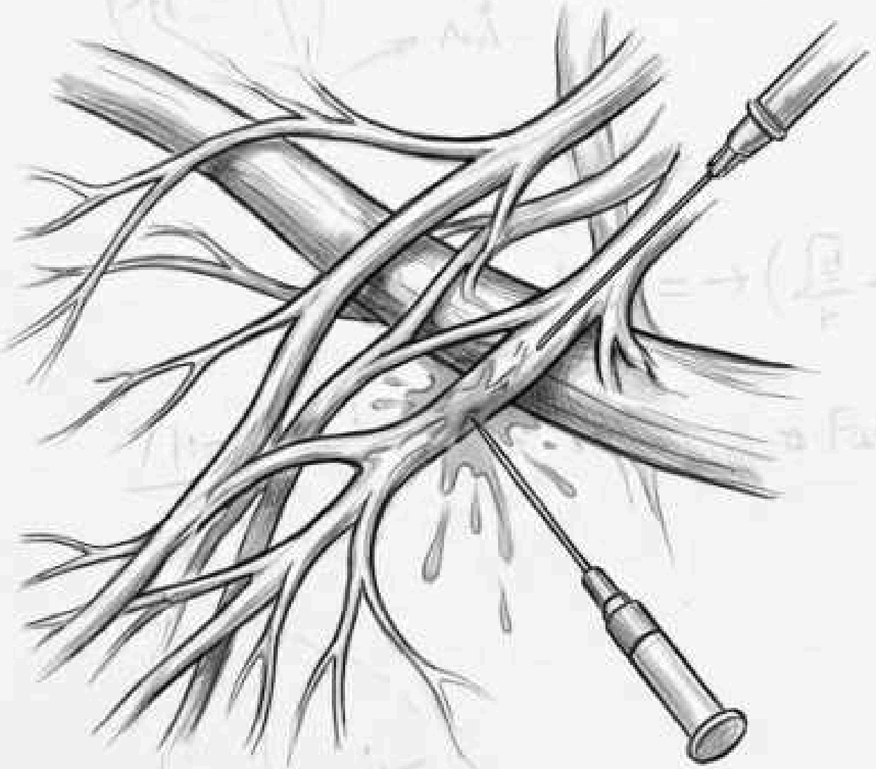
See Medicine 541 B for Early Warning Scores

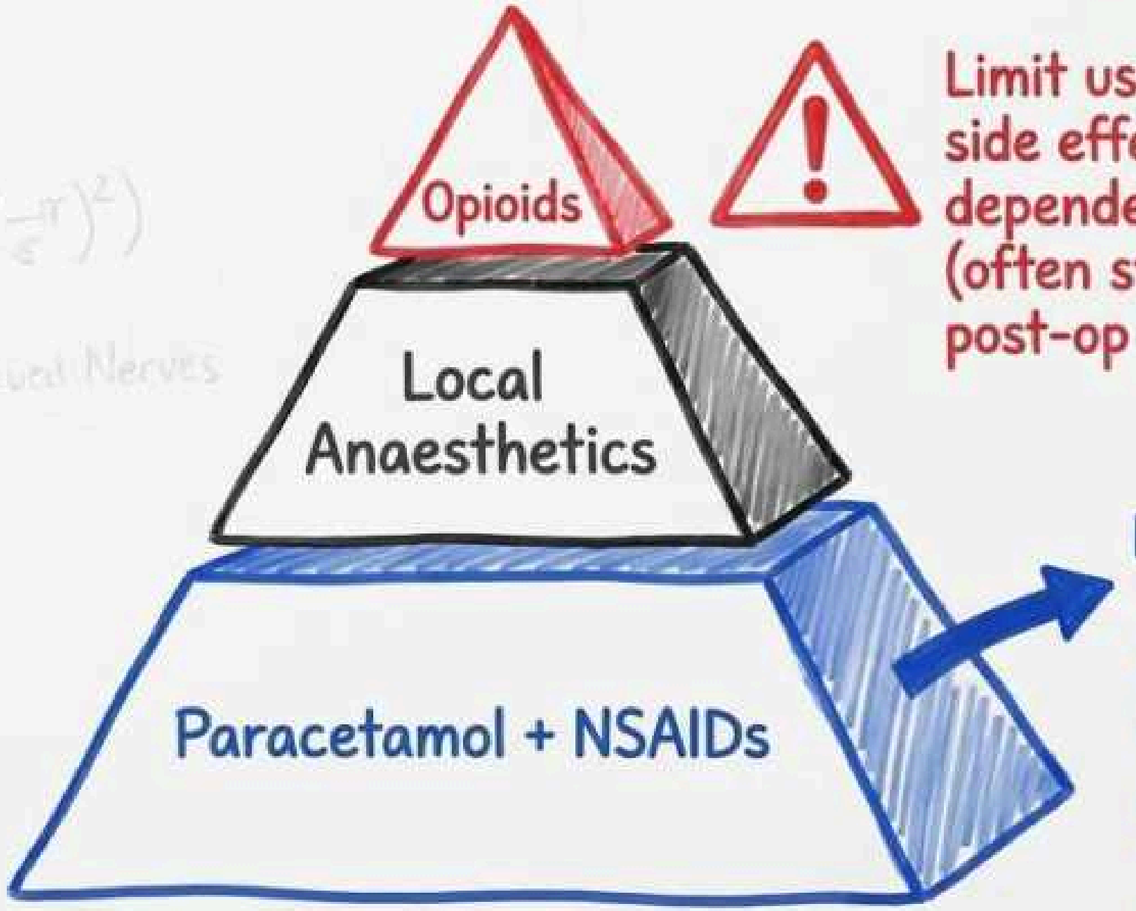
$$EWS = \sum(\Delta HR, \Delta BP, \Delta RR)$$

> Threshold → Escalate

¶ 6.2

$$\text{Analgesia}_{\text{Total}} = (\text{Paracetamol} + \text{NSAIDs}) + (\text{Local Blocks/Wound Infiltration}) + \text{Opioids}_{\text{minimized}}$$

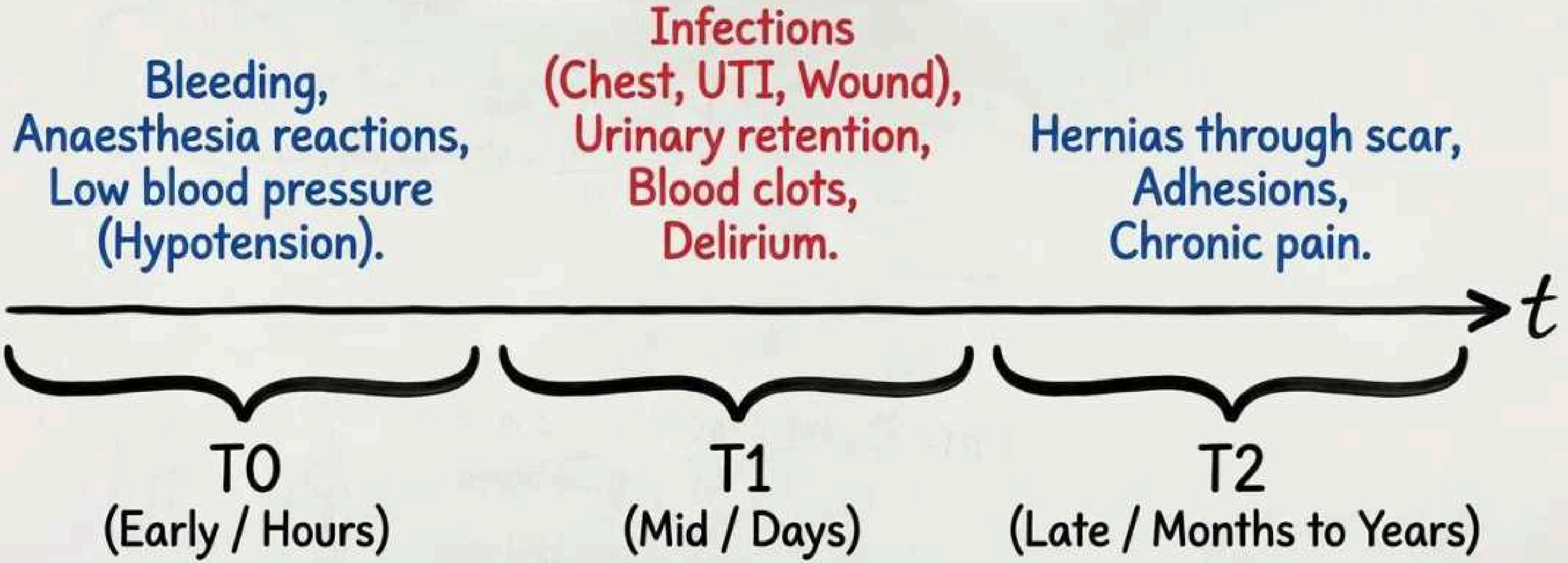




Limit use to reduce side effects & long-term dependence risk (often starts with post-op prescriptions).

Enables deep breathing, coughing, movement, and eating → Prevents Complications.

¶6.3


Bleeding,
Anaesthesia reactions,
Low blood pressure
(Hypotension).
Infections
(Chest, UTI, Wound),
Urinary retention,
Blood clots,
Delirium.
Hernias through scar,
Adhesions,
Chronic pain.
t
T0
(Early / Hours)
T1
(Mid / Days)
T2
(Late / Months to Years)

¶ 6.4

Patient Temp > 38.0°C

t ≤ 48h

Physiological response to surgery.

Contributing factor: Atelectasis (lung collapse).



t > 48h

Infection or Clot.

- Chest, Urine, Wound, Deep collection, or Blood clot (DVT).

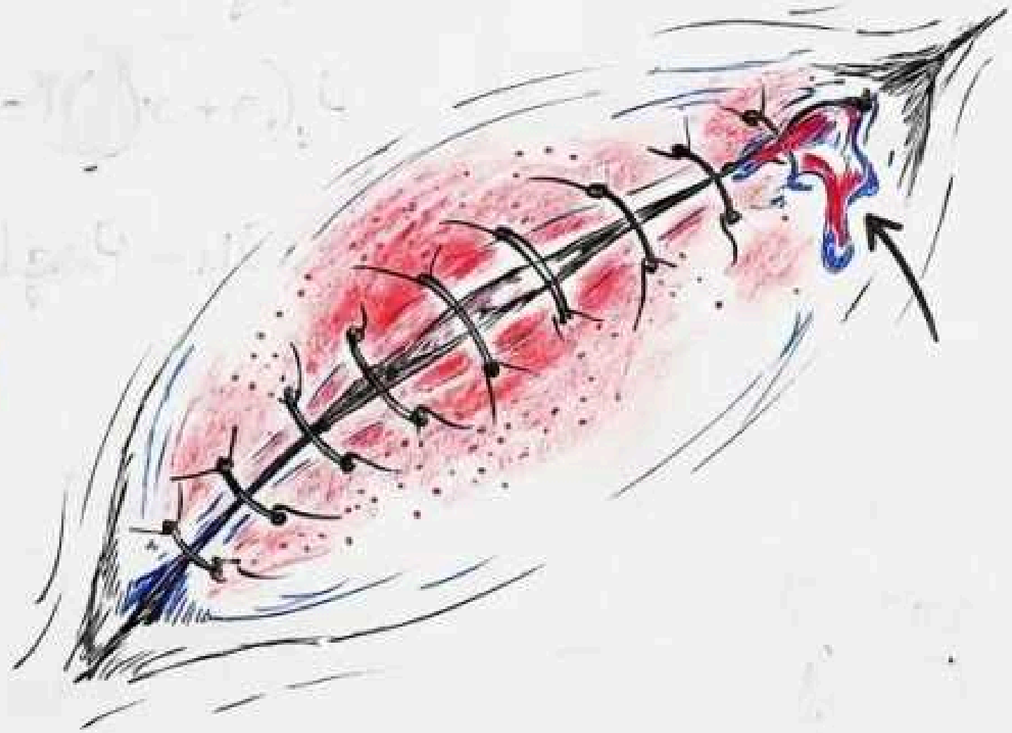
¶ 6.5

☆ SSI affects a significant share of patients, especially in bowel surgery.

Prevention

Control(Temp_intraop)
+
Control(Glucose_intraop)
+
Wound Care
=
↓P(SSI)

(See Lecture 1 measures)

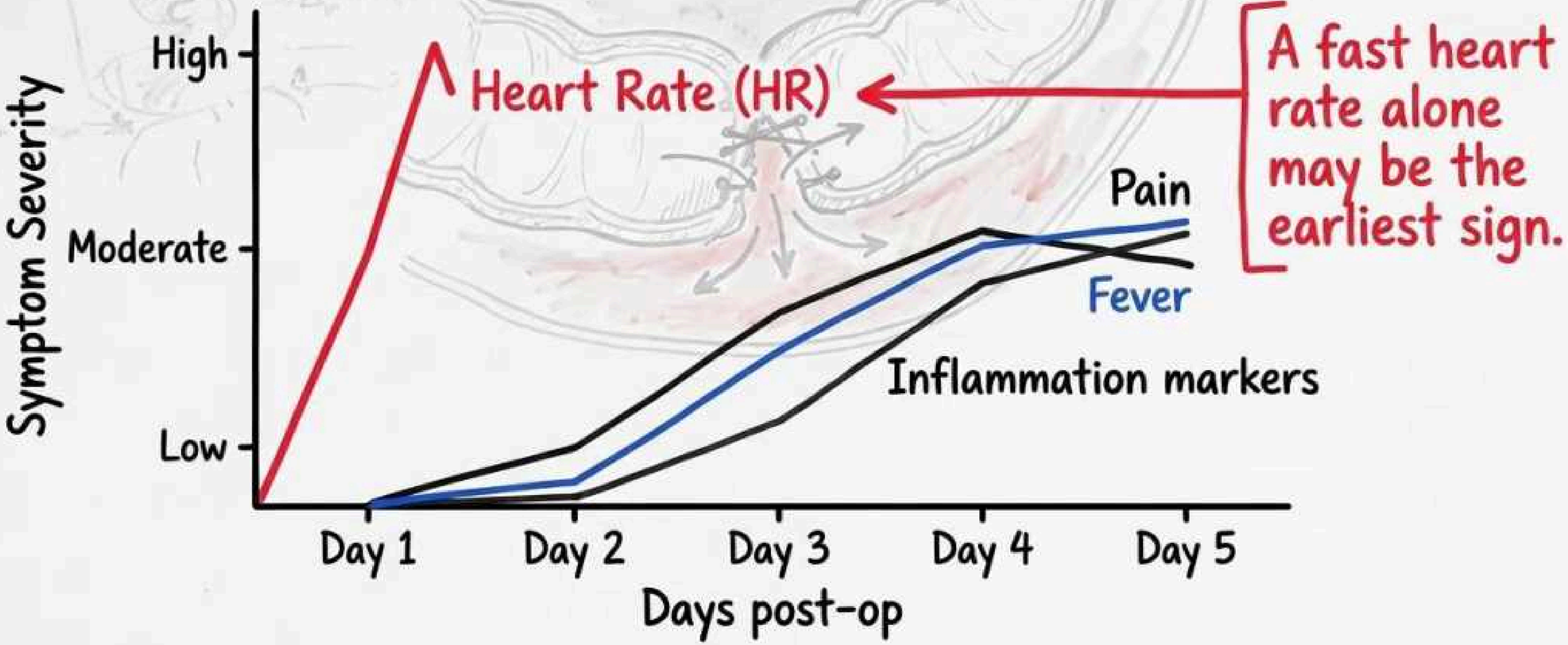


Treatment

Diagnosis
(Redness, Swelling, Pain, Discharge)

→ Open Wound
+
Antibiotics

¶6.6

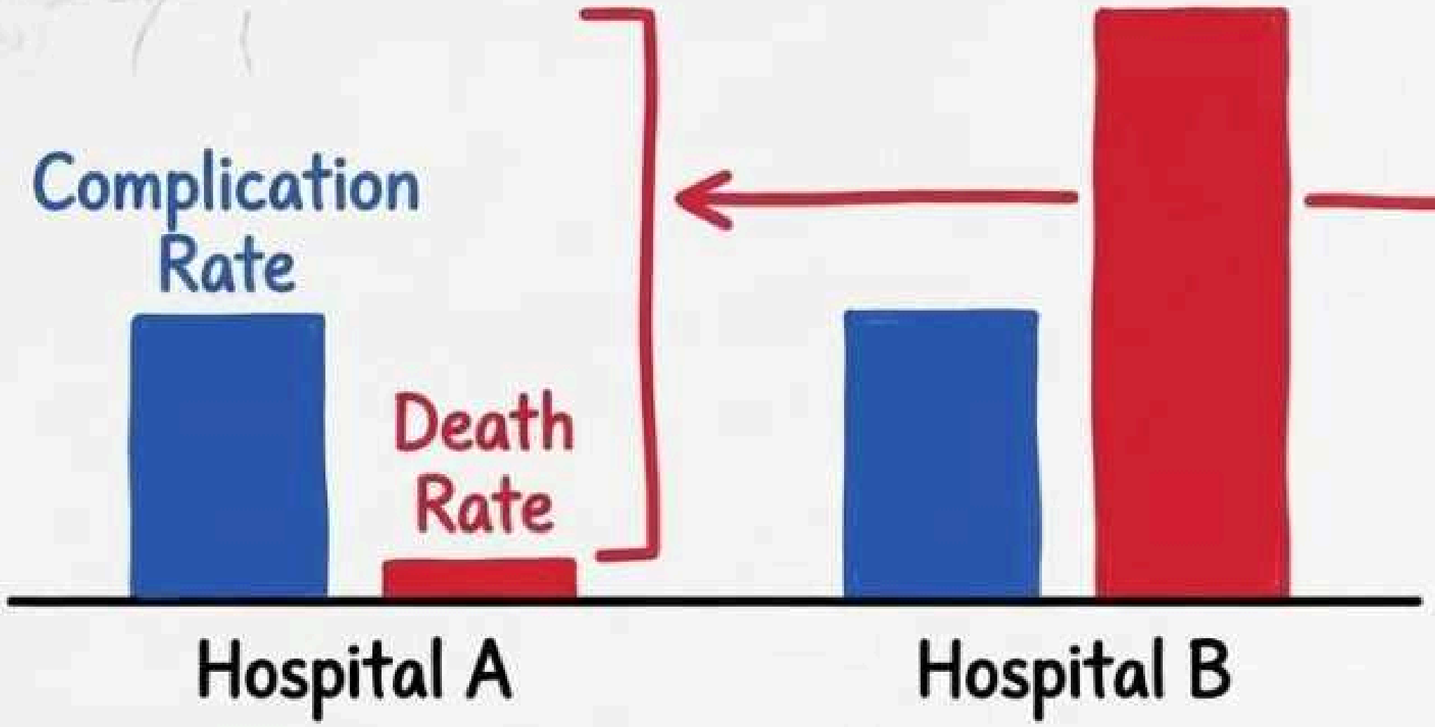


A fast heart rate alone may be the earliest sign.

Prompt recognition required → Often necessitates further surgery.

¶6.7

$$\text{Survival} = f\left(\frac{\text{Early Recognition} + \text{Escalation} + \text{Rapid Response}}{\text{Complication}}\right)$$



Escalation and rapid response are just as vital as prevention.

¶ 6.8



Pre-op

- Patient prep/info
- Carbohydrate drinks
- No long fasting

Post-op

- Early eating/drinking
- Early mobilisation
- Early removal of drips/drains/catheters

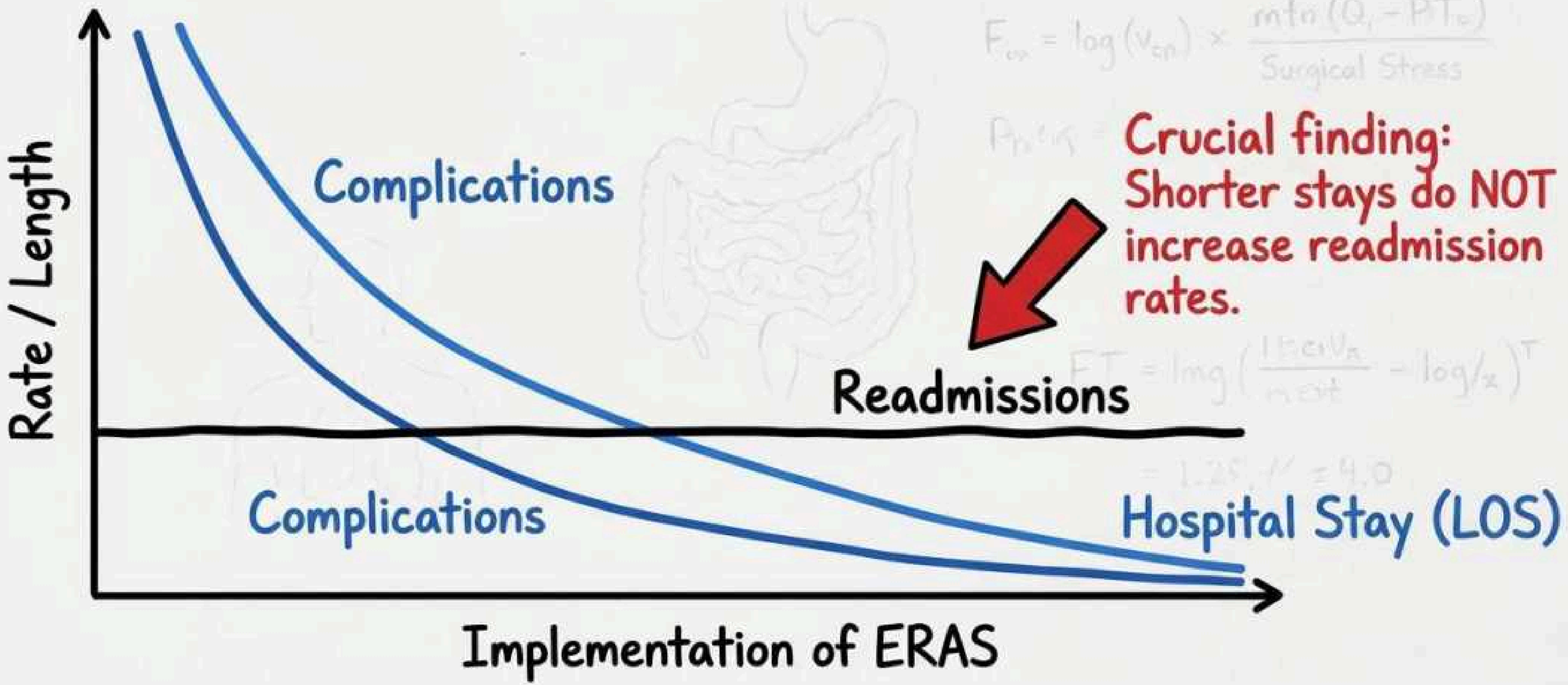
Intra-op

- Minimally invasive techniques
- Avoid excess fluids
- Multimodal analgesia (fewer opioids)

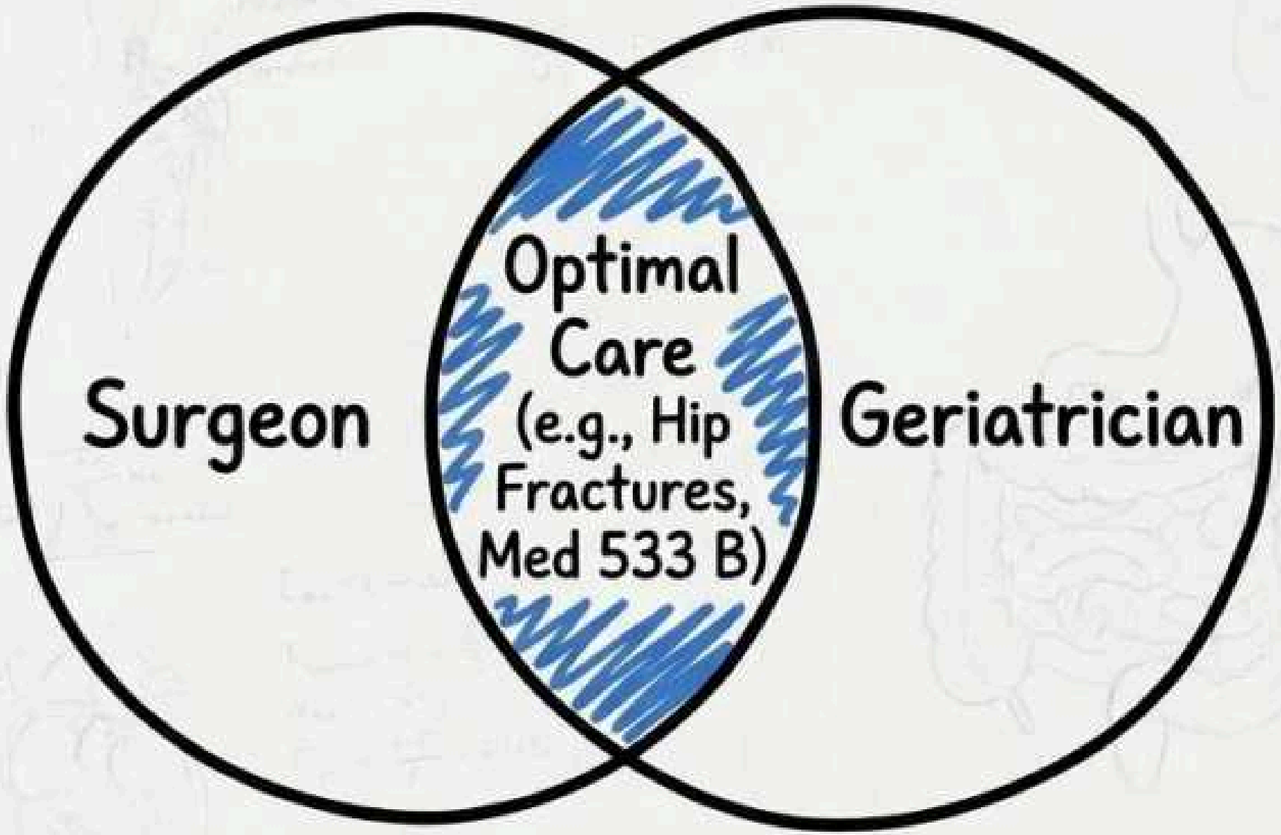
$$\sum \left(\text{Evidence-based interventions} \right) = \text{Optimized Recovery}$$

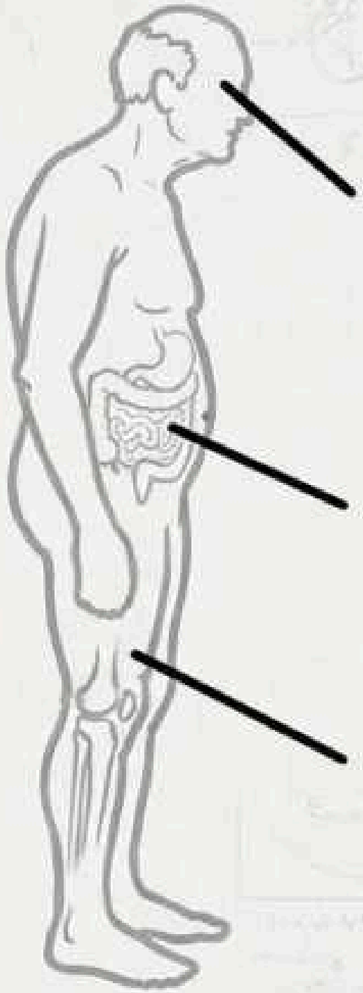
¶6.9

$$ERAS \propto \frac{1}{\text{Surgical Stress}} \rightarrow$$ Faster return to normal body function



¶ 6.10





Attention to Delirium Prevention

Optimize Nutrition

Ensure Early Mobility

Essential: A frank discussion about whether surgery will achieve what matters to the patient's goals.

¶ 6.11

Data Collection: Audits of Outcomes & Operation Registries (e.g., joint replacements).

Transparency: Public Reporting

Review: Morbidity and Mortality (M&M) Meetings (open review of complications and deaths)

Action: Surgeons learn from each case → Drives Improvement



¶ 6.12

MED 542 B: Surgical Care Mastery

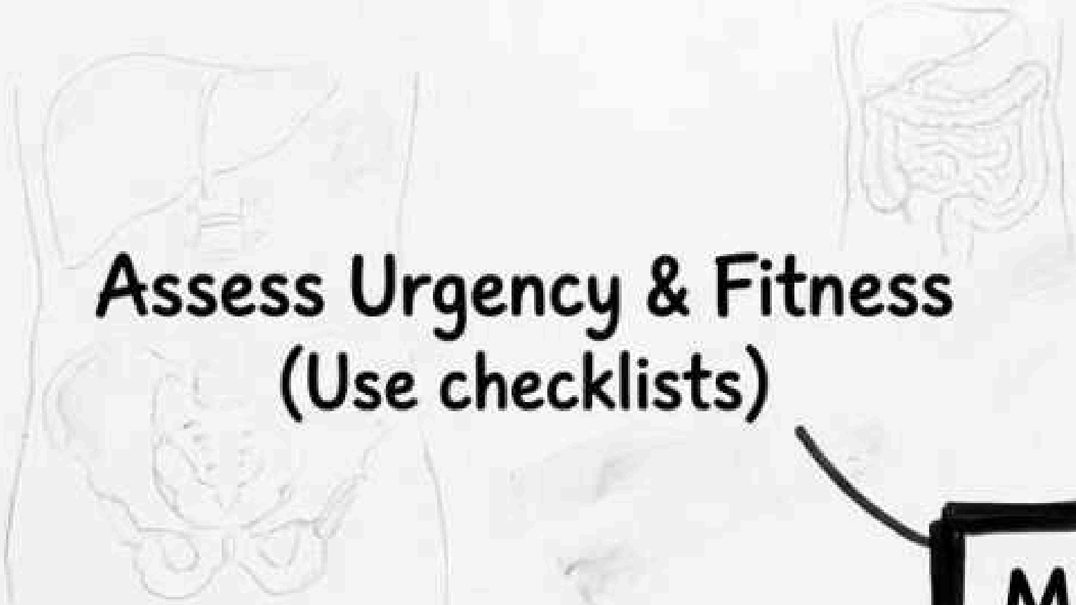
Assess Urgency & Fitness
(Use checklists)

Recognise Acute Abdomen
& dangerous causes

Plan Cancer Surgery
(Team-based)

Trauma
(Early bleeding control)

Support Recovery
(Good pain relief, ERAS,
early complication recognition)







Questions or Feedback?

Email: garyanderson@mail.grokbot.com
X (Twitter): @garyanderson