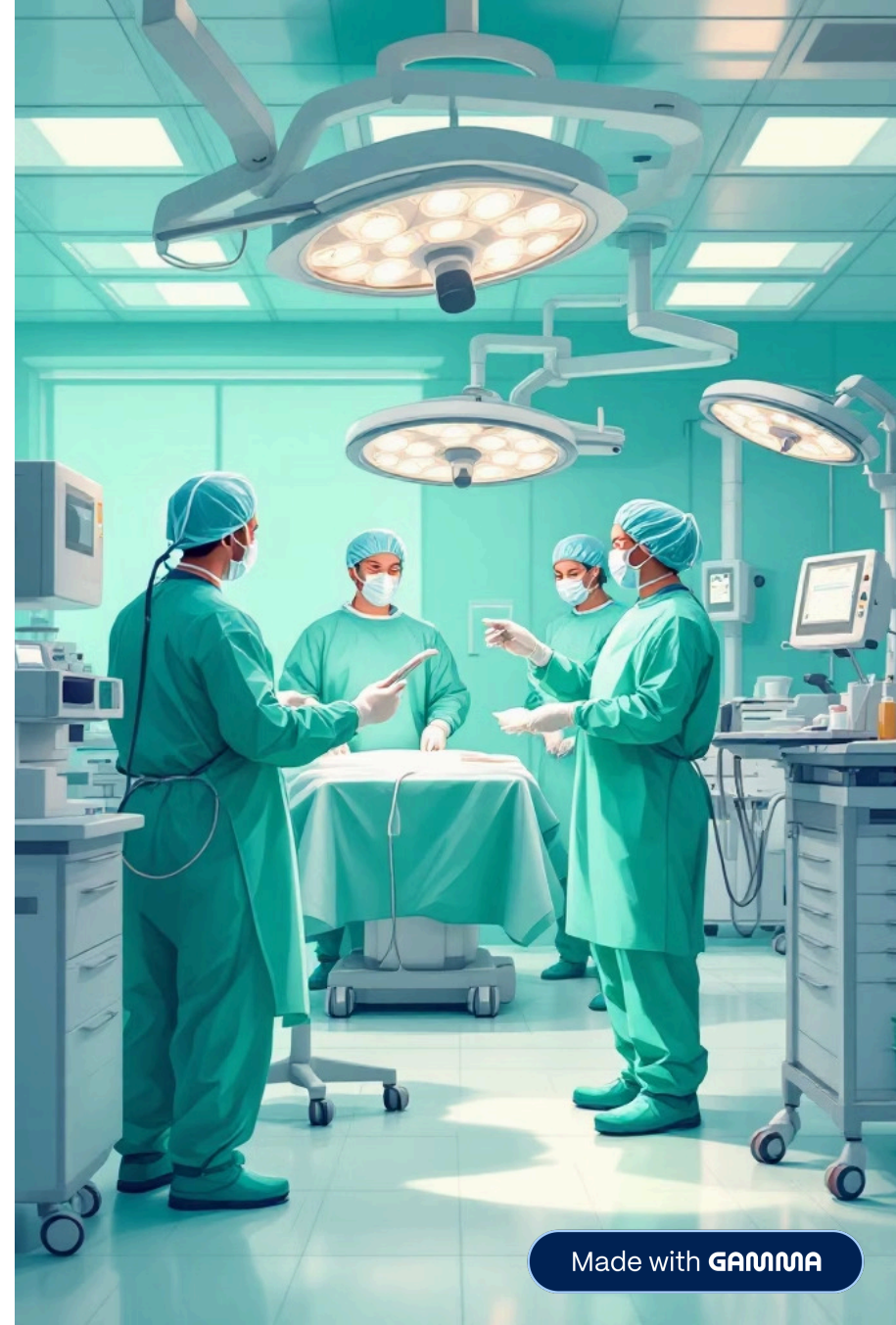


Surgical Wound Care, Ethics & Aseptic Technique



Wound Classification by Contamination

This classification directly determines antibiotic use, closure method, and infection risk assessment.



Class I: Clean

No entry into respiratory/GI/GU tracts. Example: hernia repair.



Class II: Clean-Contaminated

Controlled entry into viscera. Example: elective bowel surgery.



Class III: Contaminated

Gross spillage, traumatic wounds less than 6 hours old.



Class IV: Dirty/Infected

Established infection or perforated viscus present.

Wound Healing Phases



Hemostasis

Platelets release PDGF and TGF- β . Fibrin scaffold forms immediately.



Inflammatory

Neutrophils arrive first. Macrophages release VEGF and cytokines.



Proliferative

Fibroblasts produce type III collagen. Beefy red granulation tissue.

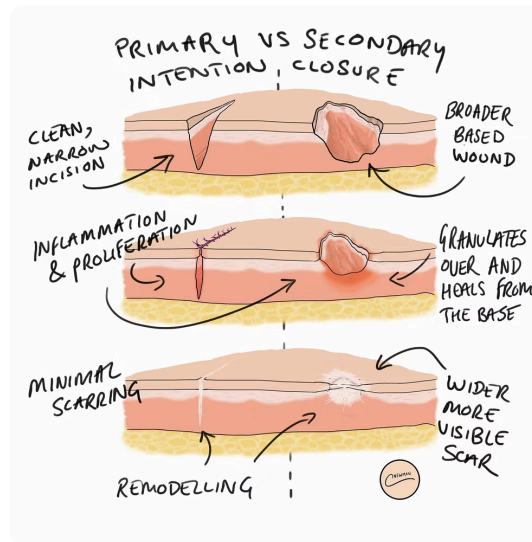


Remodeling

Type III converts to type I collagen. 20% strength at 3 weeks, ~80% max.



Types of Wound Closure



Advanced Wound Management

Debridement Methods

- **Sharp/surgical** – fastest, gold standard technique
- **Autolytic** – via occlusive dressings
- **Enzymatic** – collagenase application

Modern Dressing Types & Indications

Dressing Type	Indication
Hydrocolloid	Low exudate wounds
Alginate	Heavy exudate management
Foam	Moderate exudate
Silver dressings	Infected wounds requiring antimicrobial properties

Negative Pressure Wound Therapy (NPWT)

Mechanism: Removes exudate, improves perfusion, promotes granulation.

Indications: Chronic wounds, large surgical wounds requiring enhanced healing.

Chronic Wounds & SSI Prevention

Diabetic Foot Ulcers

Causes: Neuropathy plus ischemia. **Management:** Offloading (total contact cast), glycaemic control, debridement.

Pressure Ulcers

Sites: Sacrum, heels. **Prevention:** Repositioning, pressure-relieving mattresses.

SSI Risk Factors

Diabetes, obesity, prolonged surgery, poor aseptic technique.

Prevention Strategies

Antibiotic prophylaxis within 60 minutes before incision, proper scrubbing, normothermia maintenance.



Informed Consent & WHO Checklist

Informed Consent Requirements

- Nature of procedure explained
- Risks (common and serious)
- Benefits and alternatives
- Complications of not operating

Capacity Criteria: Understand, retain, weigh information, communicate decision.

WHO Surgical Safety Checklist

1. **Sign In** – before anaesthesia
2. **Time Out** – before incision
3. **Sign Out** – before leaving OR

Ensures correct patient, site, and procedure. Prevents never events like wrong-site surgery.

OR Ethics, Confidentiality & Professional Standards



Speaking Up

If sterile field broken, MUST declare immediately. Junior doctors have ethical duty to intervene.



Surgeon's Responsibility

Cannot delegate accountability. Must supervise trainees properly at all times.



Resource Allocation

ICU beds and OR time require justice principle consideration in distribution.



Confidentiality

Avoid discussing unrelated patient information. Never use identifiable details in teaching.

Professional Misconduct Examples

- Ignoring sterility breach during procedure
- Operating without proper patient consent
- Disrespectful or unprofessional behaviour

Surgical Scrubbing & Aseptic Technique

Antiseptic Agents

- **Chlorhexidine** – long-lasting effect
- **Povidone-iodine** – broad spectrum

Scrubbing Techniques

Timed scrub: 3–5 minutes total.

Stroke count method: Each surface scrubbed specific number of strokes.

Detailed Scrub Sequence

Gowning & Gloving (Closed Technique)

- Hands stay inside sleeves during gowning
- Gloves applied without skin exposure
- Sterile touches sterile only principle
- Front of gown = sterile, back = non-sterile

Common Errors (VERY TESTABLE)

Hands below waist level

Wet gown causes contamination

Turning back to sterile field

Reaching over sterile field

Golden Rule: If contamination occurs, acknowledge immediately and rescrub/reglove without delay.



 YouTube



Scrubbing in (surgical scrub): brush-stroke method | AMBOSS tutorial

This video shows you how to scrub in for the OR with the counted brush stroke method. You can find more information on infection prevention and scrubbing...



 YouTube



Gowning and gloving | AMBOSS tutorial

This video shows you how to quickly and safely don a surgical gown and gloves, both by yourself and when you have more assistance. You can find more information on...