



SNS COLLEGE OF ALLIED HEALTH SCIENCES
SNS Kalvi Nagar, Coimbatore - 35
Affiliated to Dr MGR Medical University, Chennai



DEPARTMENT OF CARDIOPULMONARY PERFUSION CARE

TECHNOLOGY

COURSE NAME: INTRODUCTION TO SURGERY

II YEAR

TOPIC : Abscess - Incision and Drainage



ABSCESS



Abscess is a localized collection of pus.

Pus is composed of,

- Tissue debris
- Dead and alive leucocytes
- Dead and alive bacteria.
- Laudable pus.- Pus was considered good because it precedes cure.
- Represents near win of body's defenses

- The process of formation of pus is called **suppuration**
- Suppuration is caused by bacteria like Staphylococcus, Streptococcus, Pseudomonas ,E.coli etc.





ETIOLOGY



- Idiopathic
- Congenital/Genetic
- Traumatic
- Infections /Infestation
- Autoimmune Neoplastic (Benign/Malignant)
- Degenerative
- Iatrogenic





PREDISPOSING FACTORS



- Impaired host defense mechanisms **eg, HIV**
- The presence of foreign bodies
- Obstruction to normal drainage (**eg, in the urinary, biliary, or respiratory tracts**)
- Tissue ischemia or necrosis
- Hematoma or excessive fluid accumulation in tissue
- Trauma
- Numerous organisms can cause abscesses, but the most common is **Staphylococcus aureus.**

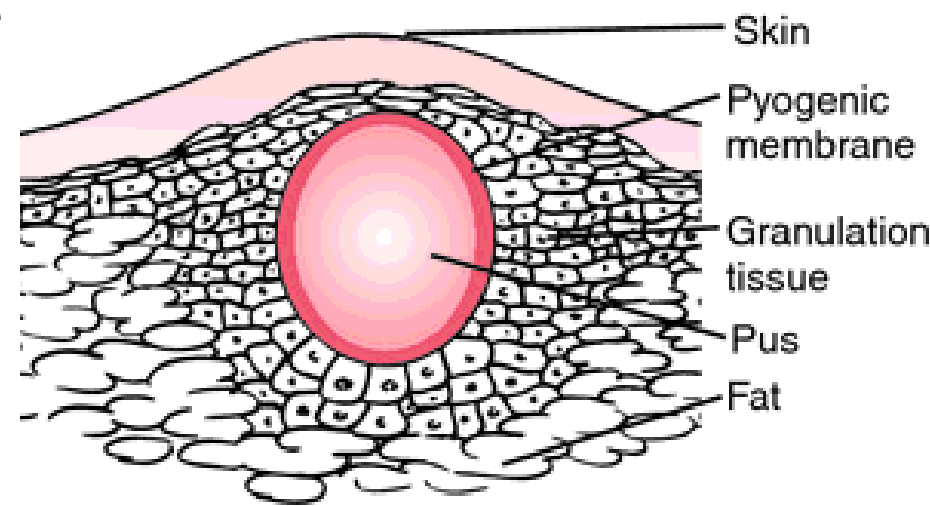




PATHOPHYSIOLOGY



- Abscesses may begin in an area of **cellulitis** or in compromised tissue where leukocytes accumulate.
- Progressive dissection by pus or necrosis of surrounding cells expands the abscess.
- Highly vascularized connective tissue may then surround the necrotic tissue, leukocytes, and debris to wall off the abscess and limit further spread.



Injury to the skin or mucous membrane

↓
Pyogenic bacteria invasion

↓
Colonization of bacteria

↓
Formation of pyogenic membrane

↓
Body immunity fails to fight

↓
Abscess develops



REASONS FOR PYOGENIC BACTERIA ENTRY



Organisms may enter the tissue by-

- Direct implantation eg., IM injection.
- Spread from an established, contiguous infection
- Dissemination via lymphatic or hematogenous routes from a distant site
- Migration from a location where there are resident flora into an adjacent, normally sterile area because natural barriers are disrupted (eg., by perforation of an abdominal viscus causing an intra-abdominal abscess)

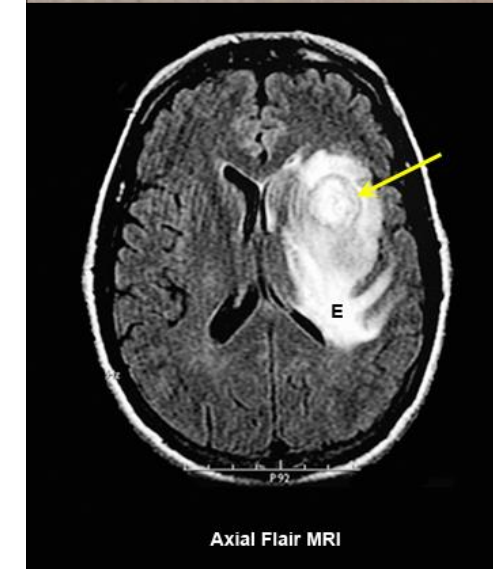
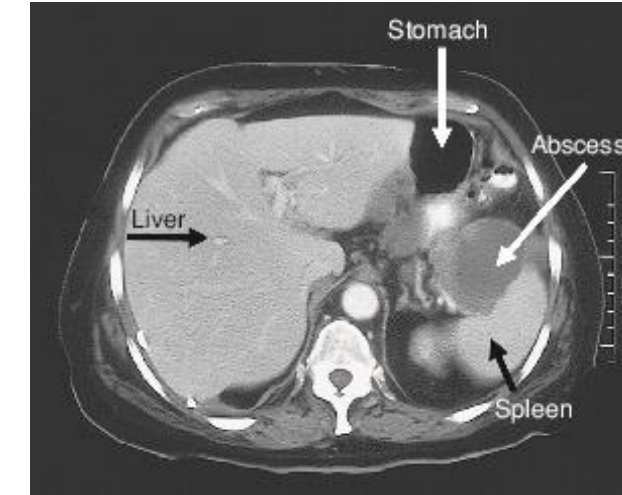




CLASSIFICATION OF ABSCESS



- **Acute or hot abscess** - Abscesses are often easy to feel by touching. Painful and warm to touch
- **Chronic or cold abscess** - no associated erythema, heat, or tenderness. Eg., immunodeficiency disorders
- **Superficial abscess** - A superficial abscess is a painful clinical condition readily treated by simple incision and drainage procedures under general or local anaesthesia
- **Deep abscess** - Abscesses are collections of pus in confined tissue spaces
- **Embolic abscess** - focal or diffuse infection, ischemic and hemorrhagic damages following infective thromboembolism from any part of the body
- **Pyemic or metastatic abscess** - a type of sepsis that leads to widespread abscesses of a metastatic nature

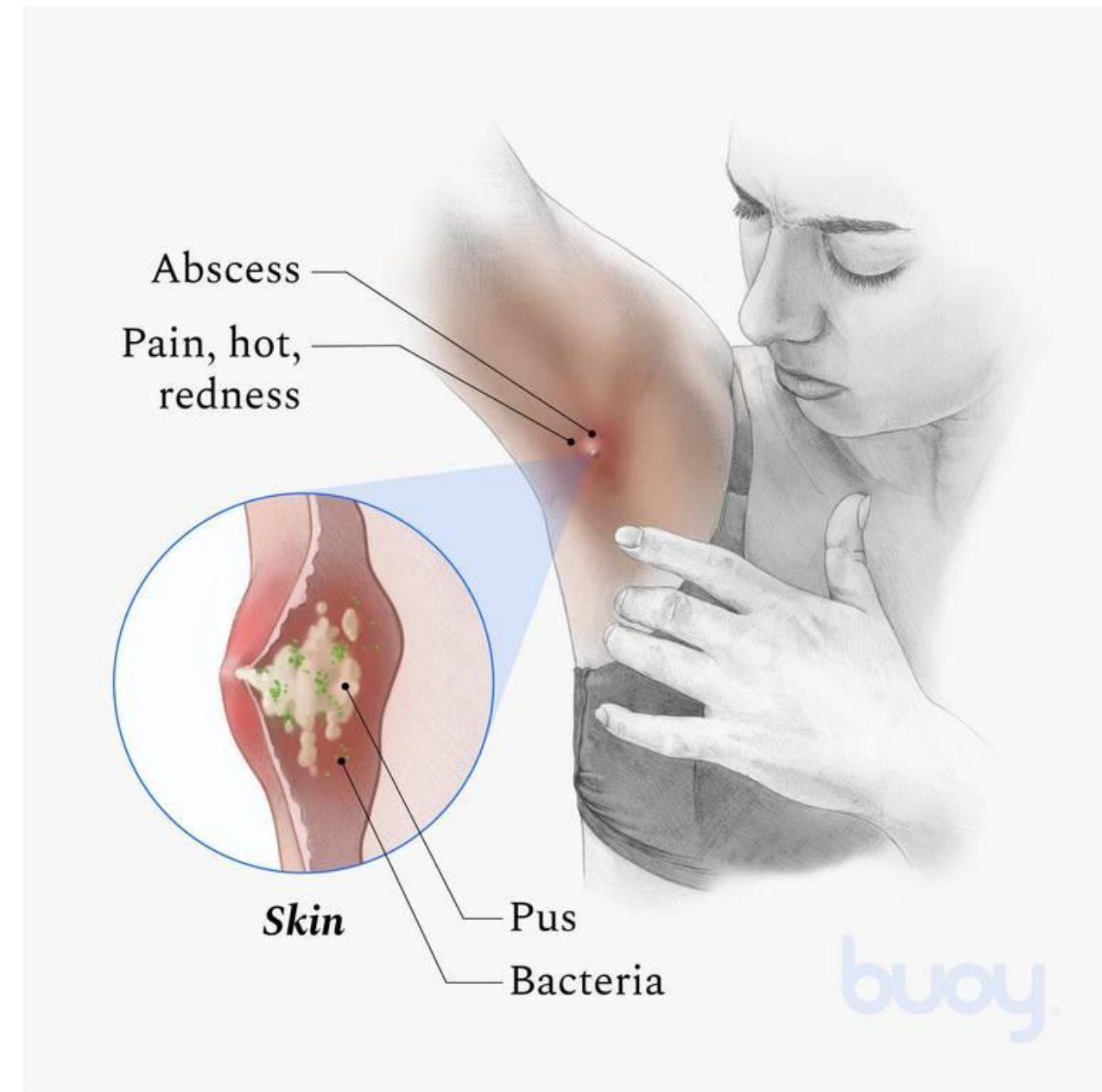




SYMPTOMS



- Fever with spikes and chills.
- Local pain and tenderness
- Anorexia
- Weight loss
- Fatigue





COMPLICATIONS

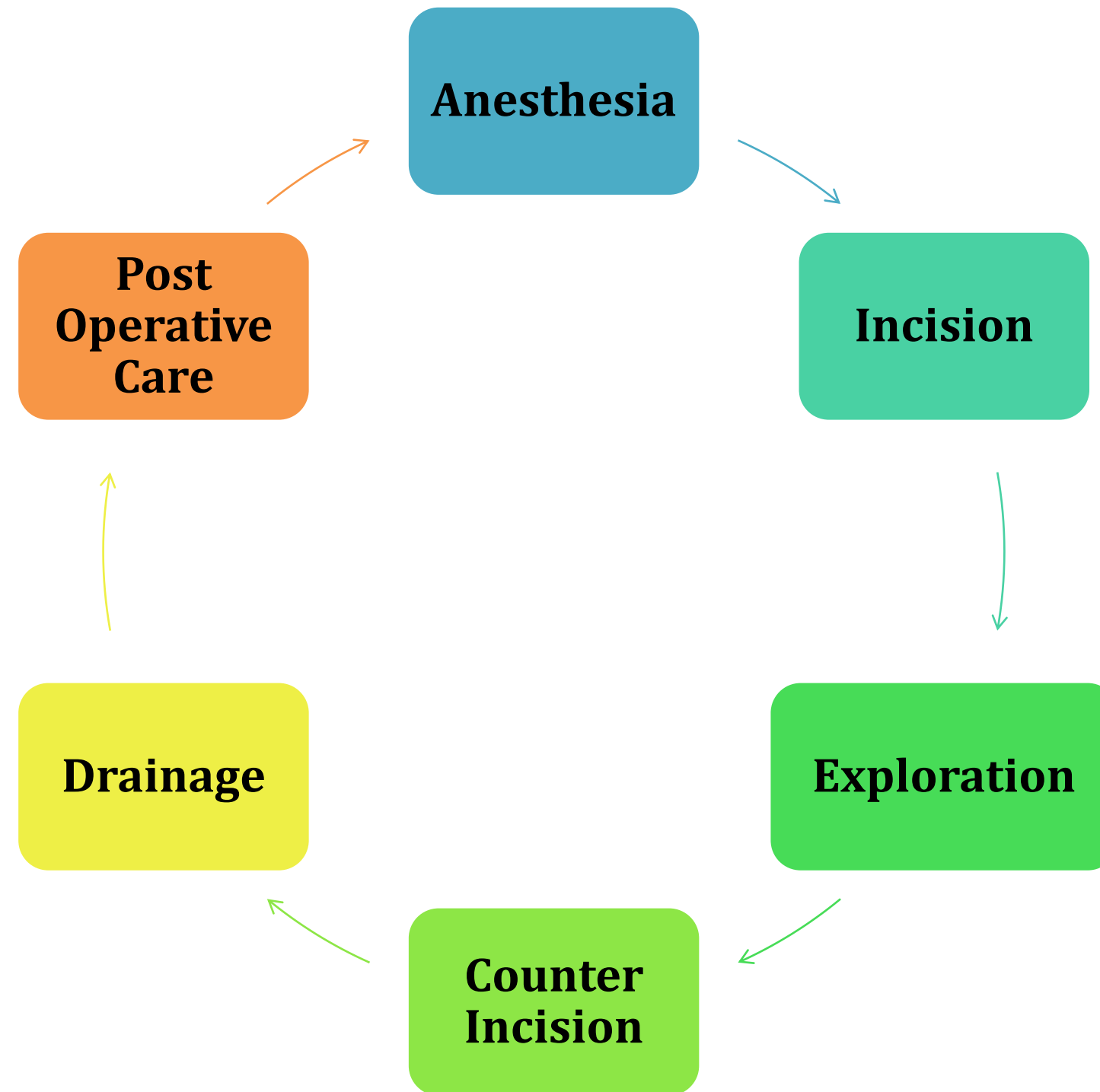


- Bacteraemia spread
- Rupture into adjacent tissue
- Bleeding from vessels eroded by inflammation
- Impaired function of a vital organ
- Inanition due to anorexia and increased metabolic needs
 - **Antibioma**
 - **Sterile abscess**
 - **chronic draining sinuses**



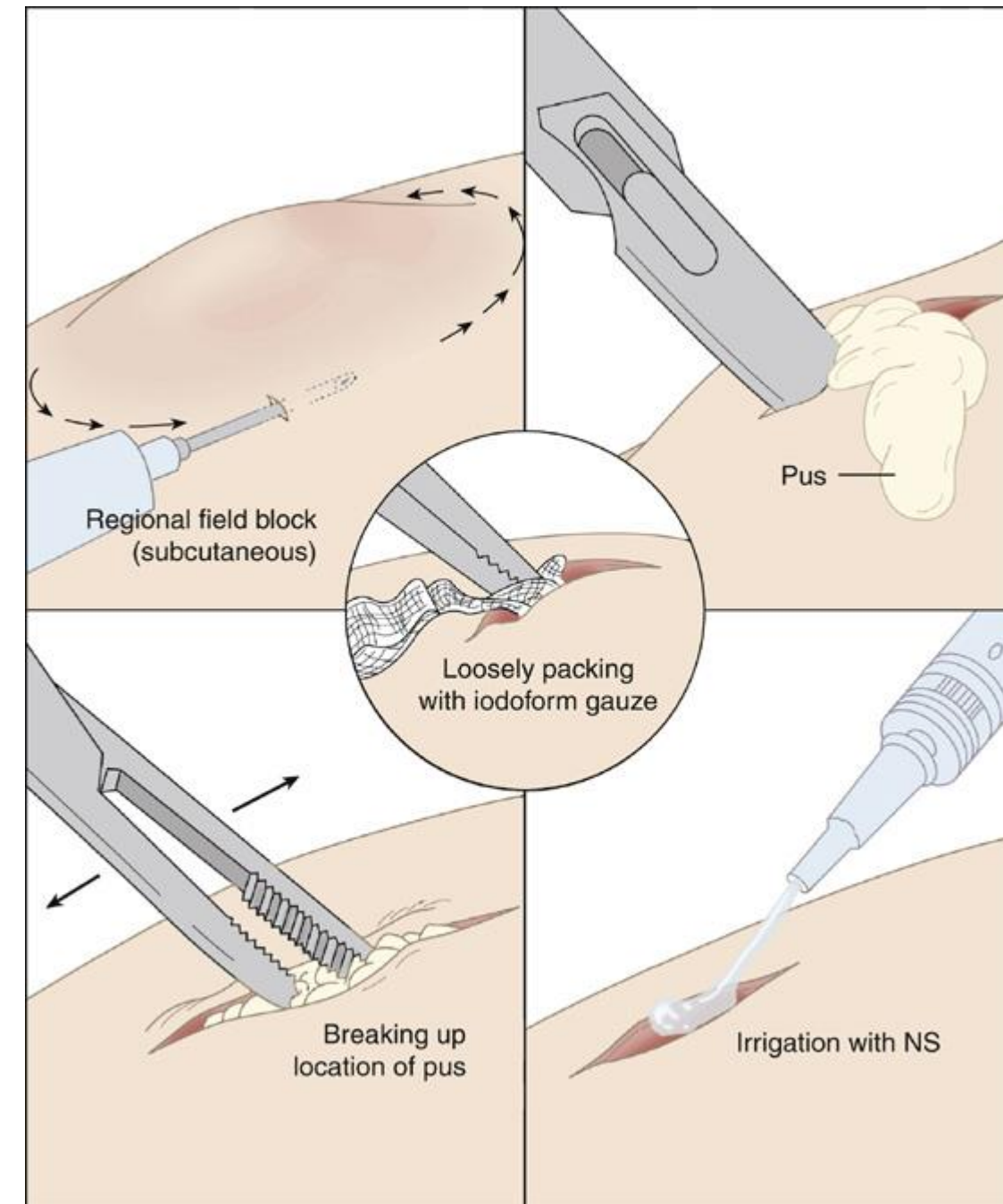


INCISION AND DRAINAGE



ANAESTHESIA

- Superficial abscesses may be drained with surface anesthesia
- Local anesthetic such as **lidocaine** or **bupivacaine** should be injected within the roof of the abscess where the incision will be made.
- Deep abscesses require General Anesthesia (LA might spread infection to neighboring tissues)





INCISION



Free/Liberal Incision:

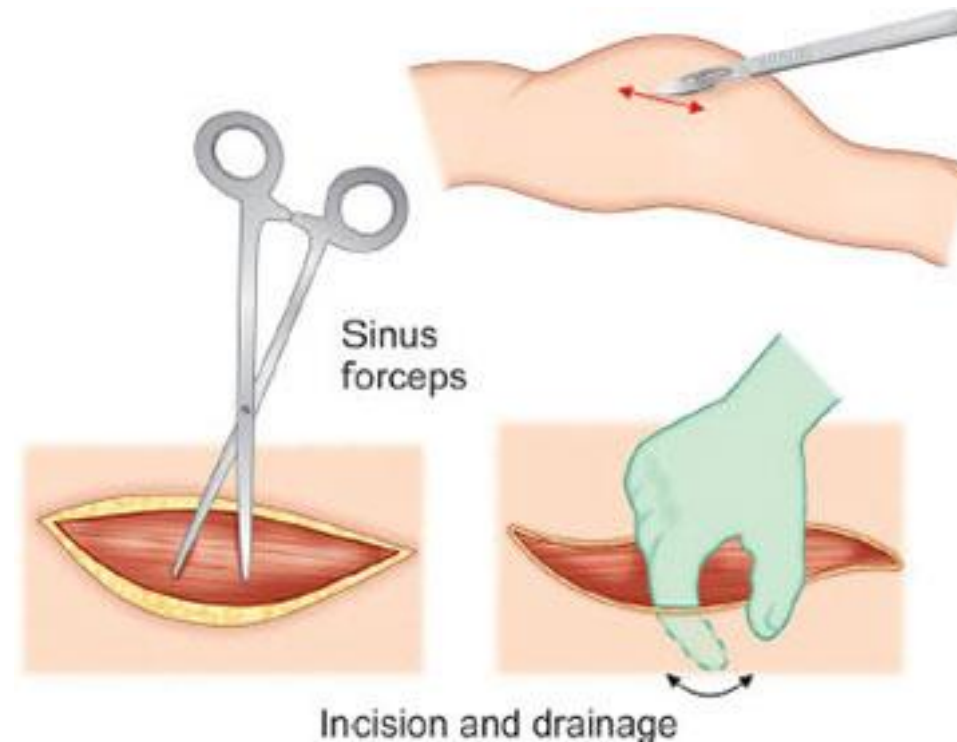
- Made on mostly prominent part
- It causes minimum damage to the surrounding healthy tissue

Principle of incision

- Should ensure adequate drainage
- Parallel to important vessels, nerves, tendons
- Muscle should be incised along the line of fibers

Hiltons method:

- Chosen when there are plenty of important structures like nerves and vessels
- Employed in places like neck, axilla, groin



Skin incision on dependent part

↓
Forceps forced into cavity

↓
Blades are gradually opened and pus drained

↓
Forceps are taken out with jaws open

↓
A finger introduced to explore the abscess cavity



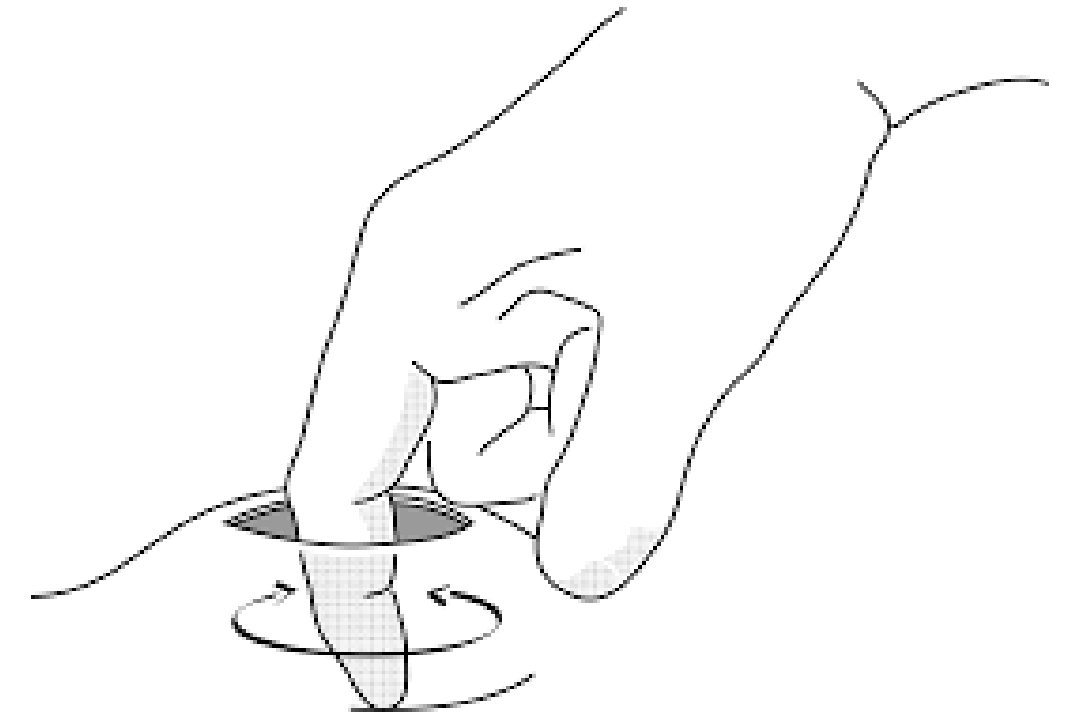
EXPLORATION & COUNTER INCISION



Exploration

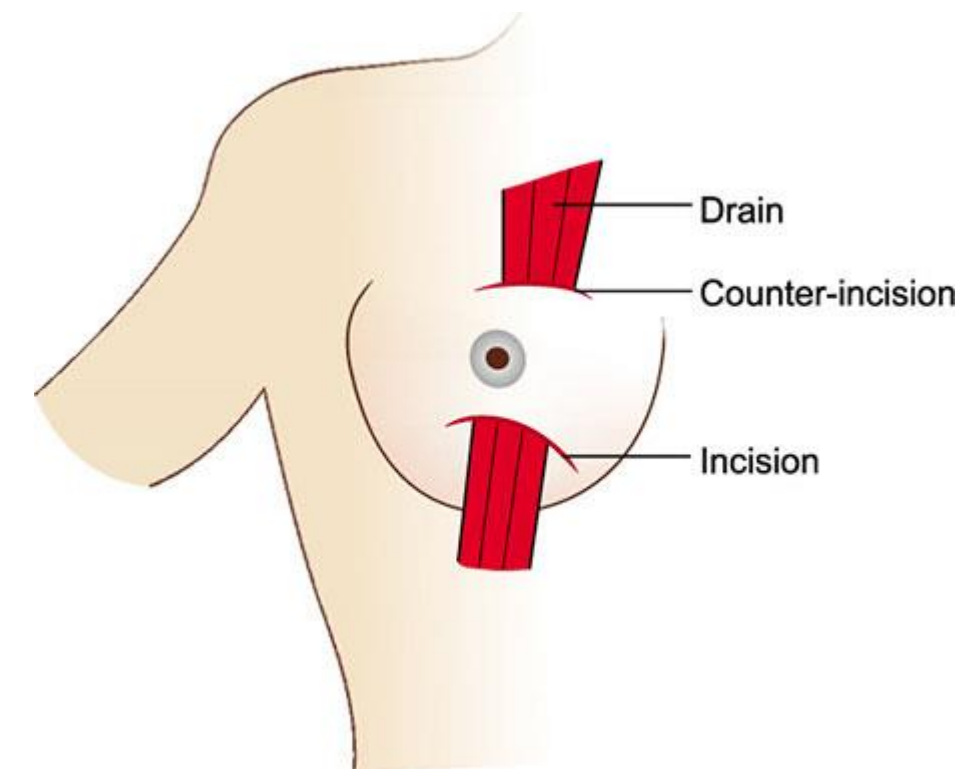
A finger is introduced into the abscess cavity

- To define its limit
- To break any septum inside, thus making all loculi into one cavity, for complete drainage



Counter Incision

- Abscess will drain better if there is counter incision
- Where original incision is not the most dependent part, here counter incision helps in draining cavity
- A sinus forceps passed in cavity till most dependent part, a small nick is made on the skin over the forceps to make the counter opening

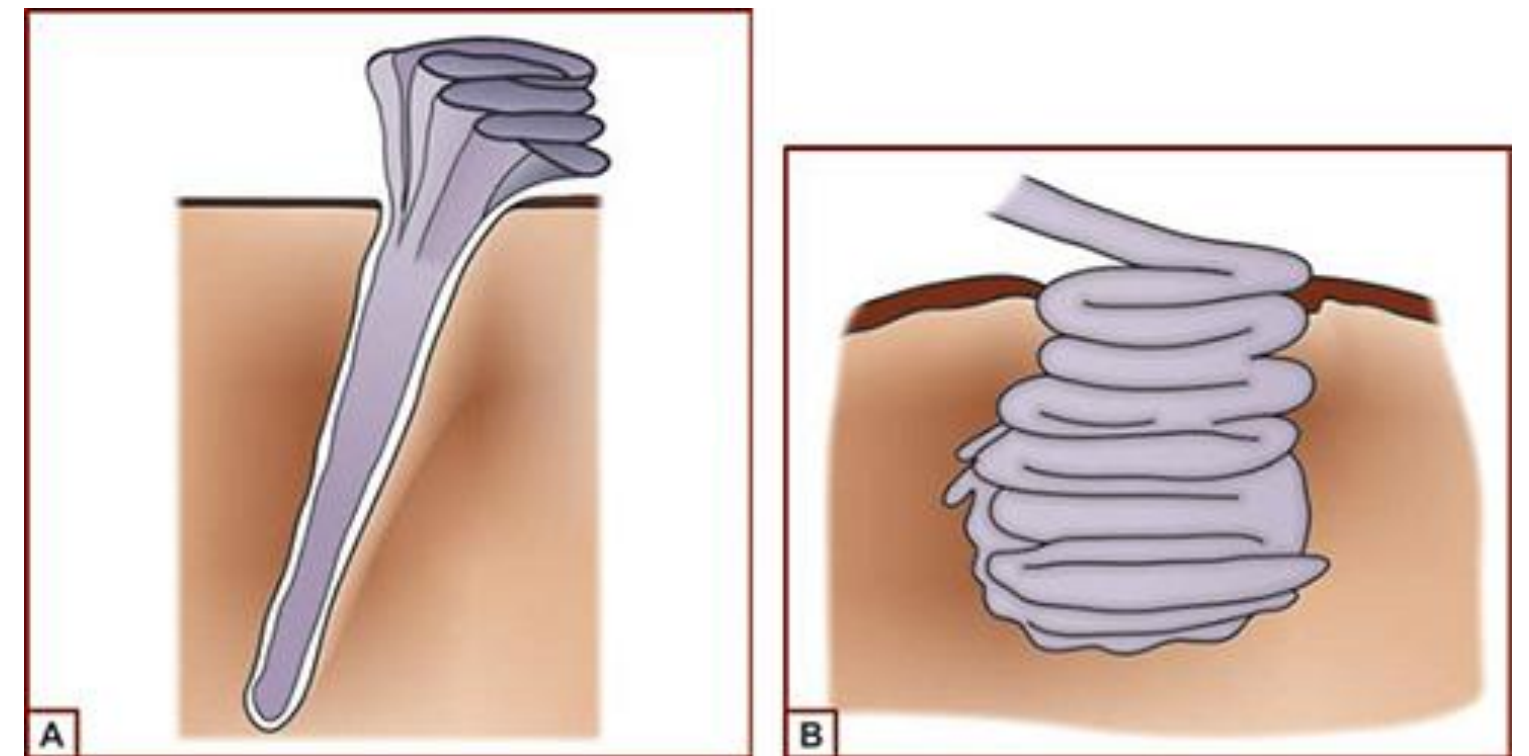




DRAINAGE



- A corrugated wick or wick of gauze
- A sterile saline solution will be used to clean this area out, and wound dressing will be applied to help absorb further fluid.
- If the abscess is broad or deep, the doctor might insert gauze wick to help absorb liquid and allow healing from the inside out.
- Where walls of abscess is very vascular, a tight packing of the cavity is required to achieve hemostasis





POSTOPERATIVE CARE



- Rest to the part
- Antibiotics preferably chosen by culture sensitivity test
- Oral regimens – For most patients with skin abscess, oral antibiotic therapy is sufficient
- Trimethoprim-sulfamethoxazole, doxycycline, or minocycline were used
- Regular dressing - if the cavity has been packed, the packing should
- Drains are removed after 48hrs



THANK YOU



References:

<https://www.icliniq.com/articles/healthy-living-wellness-and-prevention/how-to-prevent-an-injection-abscess>

<https://www.medline.be/en/Sterile-wick-1-cm-x-5-m#:~:text=The%20gauze%20wick%20is%20appropriate,the%20wound%20by%20the%20bottom.>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7807340/#:~:text=Counter%20incision%20is%20a%20safe,inflatable%20penile%20prosthesis%20surgery%20%2D%20PMC>