Aim
- To investigate the reaction of the connective tissue to filling of the tubes with sterile and contaminated cellular debris.

Materials & Methods
- 6 rats were used in this study.
- Varying lengths and diameters of disinfected polyethylene tubing opened at one end and closed at the other end were filled with:
  Phase 3: sterile autoclaved muscle (12 tubes in 3 rats)
  Phase 4: autoclaved muscle contaminated with gram -Ve cocci and then surgically implanted into the dorsal subcutaneous tissues (12 tubes in 3 rats)
- After 60 days, animals were killed and the implants, together with the surrounding tissue, were excised and the specimens were fixed, sectioned and stained for histological evaluation.

Results
Phase 3
- All tubes were surrounded by a non-inflamed connective tissue capsule except in the area directly opposite the orifice of the tube lumen.
- Tissue reaction varied from mild to moderately inflamed mature granulation tissue.
- The more inflamed specimens showed extension of inflammatory cells into the surrounding tissues.
- Pus was present in 4 of the 12 specimens.

Phase 4
- Tissue reaction varied from moderate to intense inflammation with abscess formation.
- The more moderate the inflammation, the smaller the lesion & the thicker the capsule around it.
- Pus was present in varying amounts of all tubes.

Conclusion
- Prognosis for repair about the open end of the tube was least favorable when the lumen was filled with muscle debris and microorganisms.