



History of Surgery and Surgical Innovations

Presented by :

Dr. Neville Graham, OD., MD., F.R.C.S. (Edinburgh),

Dean of CSMSJ,

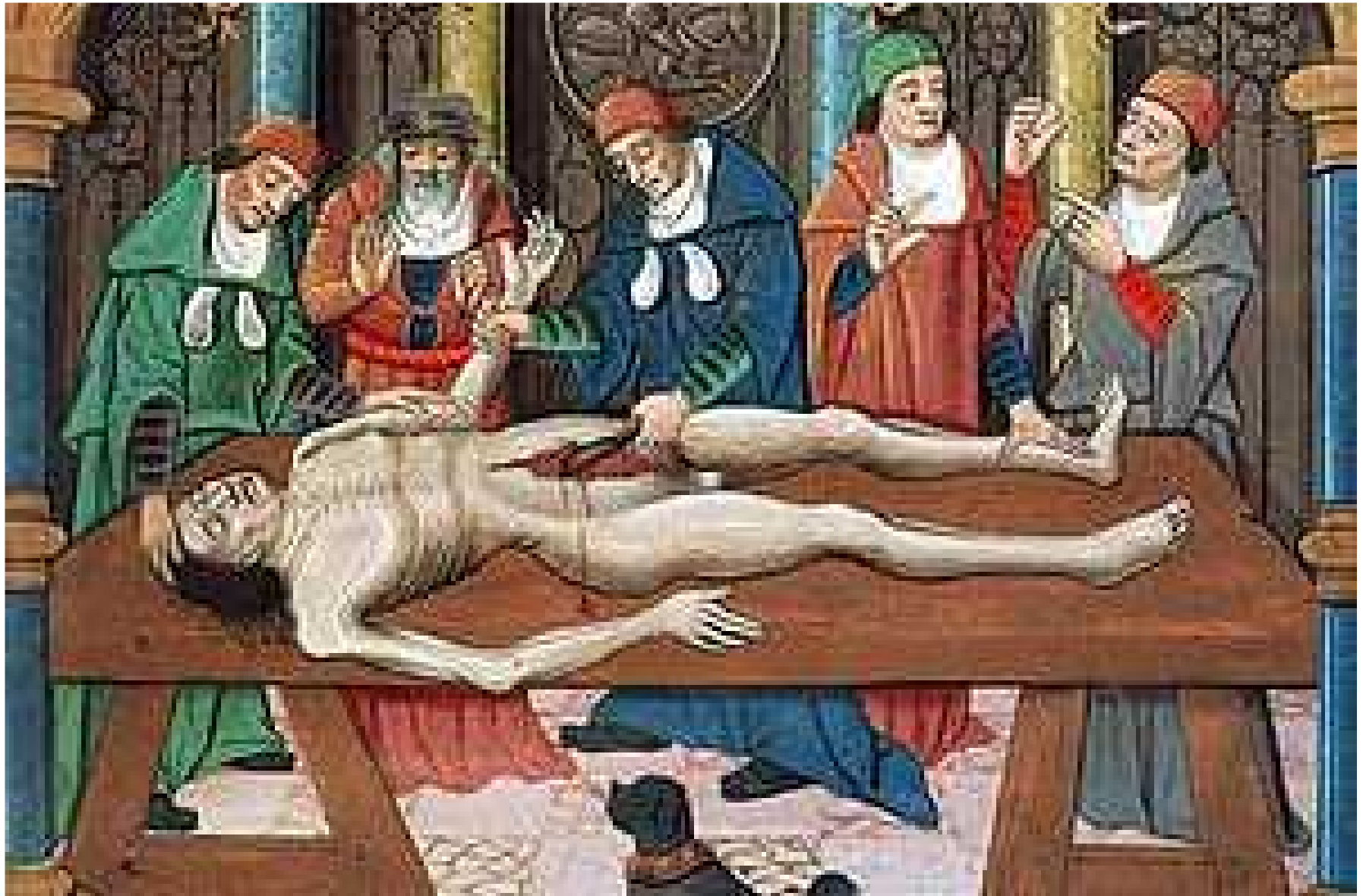
Associate Professor and Consultant Surgeon

Innovations in Surgery



- ▶ Ancient civilization, man has become not only fascinated with the environment but has been interested in himself to:
 - Live longer and conquer disease processes.
 - Exploring the human body and its functions
 - Exploring the inner man's psychology





Medicine in Medieval Times



- ▶ The first major step towards the practice of medicine was when man conquered the art of practicing science and challenged superstitions.
- ▶ The science of anatomy was developed by dissecting corpses of human beings and animals.
- ▶ The first school of anatomy was in Alexandria when King Ptolemy gave permission for scholars to dissect human bodies to which he even participated. (300 BC)



Concepts



- ▶ The concept of the circulatory system,
- ▶ The functions of the heart and brain
- ▶ The concept of diseases
- ▶ The concept of microorganisms (developed by Pasteur in the 18th century)



History of Surgery



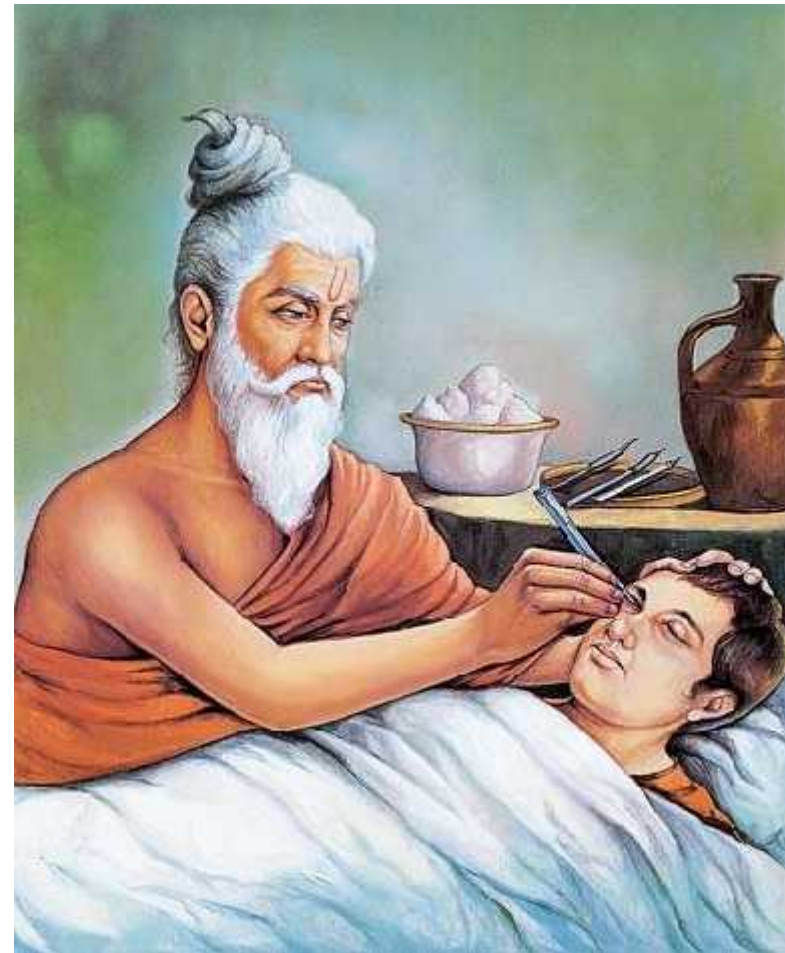
- ▶ Surgery is the branch of medical sciences that involves the use of instruments to remove, repair or manipulate the human body.
- ▶ The pillars of surgery include:
 - Understanding anatomy and imaging
 - Understanding the circulatory system
 - Understanding pain and anesthesia
 - Understanding infection, its prevention and treatment



History of Surgery



- ▶ Susruta Samitha (400 Bc) in India was considered the father of surgery.
- ▶ Imhotep who was one of the main doctors in the building of the Egyptian pyramids made important contributions to the diagnosis and healing of fractures as well as nutrition.
- ▶ In the 12th – 16th century surgery was mainly carried out by barbers and monks in Europe. Thus the title Mister to surgeons.



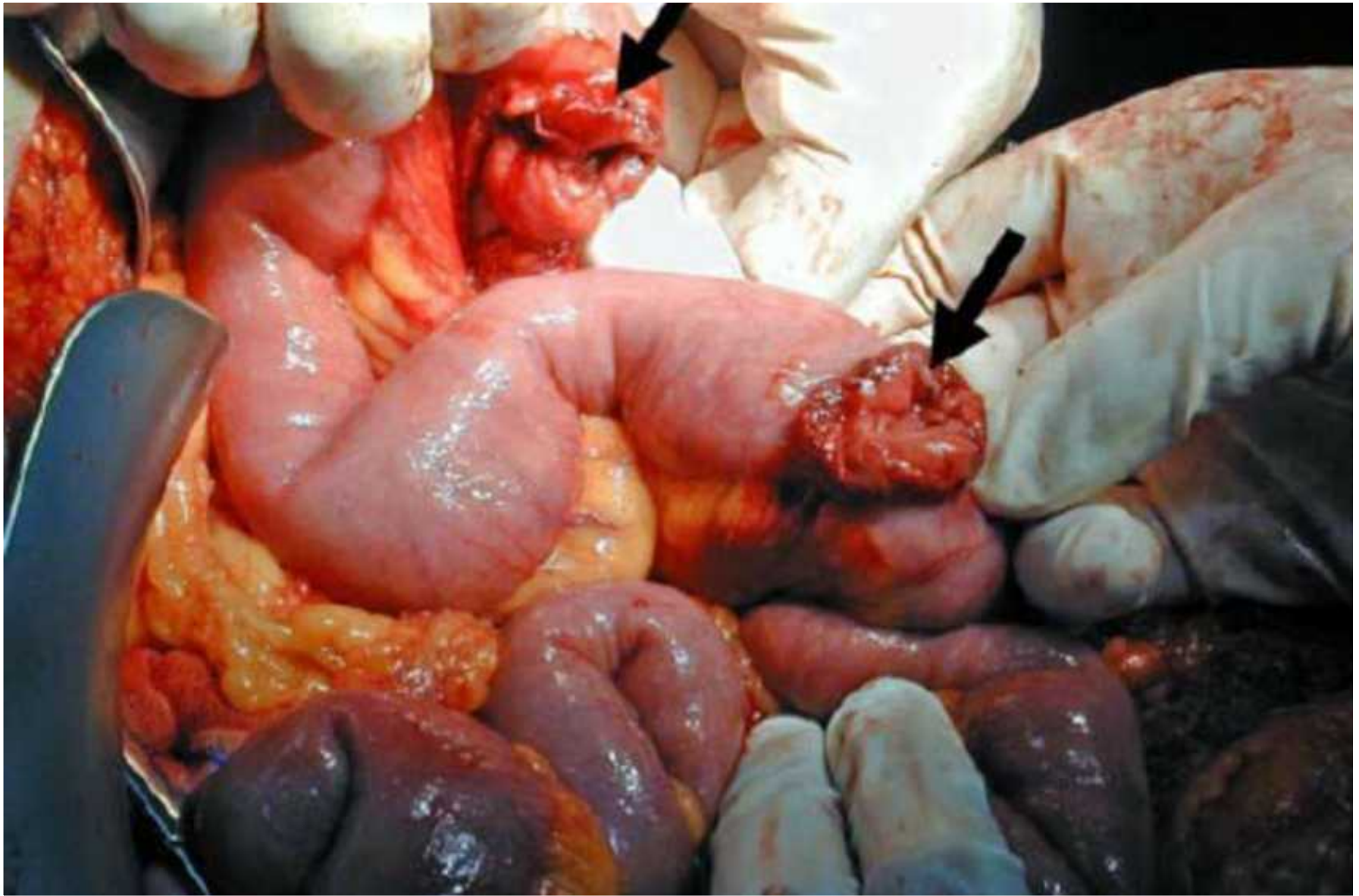


19th – 20th century Surgery



- ▶ These surgeries were characterized by a revolution in the understanding of the basic concepts of:
 - Surgery
 - Physiology
 - Pathology
 - Tissue Repair
 - The body response to injury





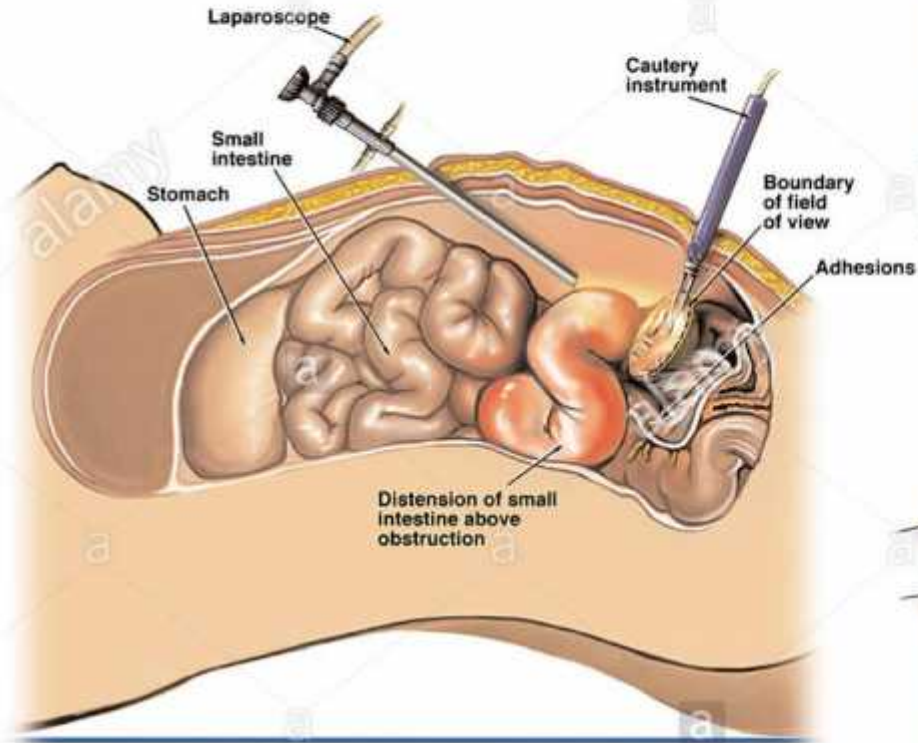
20th – 21st century Surgery



- ▶ Surgery became influenced by the scientific and technical revolution and information technology. Thus, innovation in surgery became the order of the day.
- ▶ The increased demand for:
 - surgical precision and cure
 - Minimal invasive
 - Minimal pain post op
 - Restoration of function in the earliest possible time
 - Patient, family and public participation in treatment

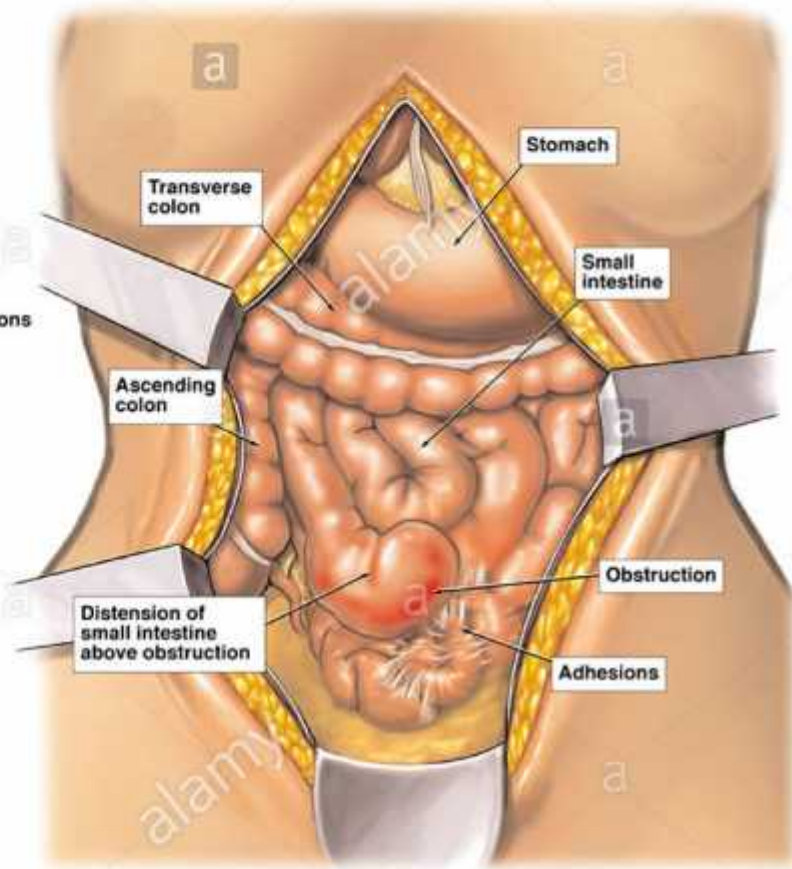


FIELD OF VIEW DURING LAPAROSCOPIC PROCEDURE



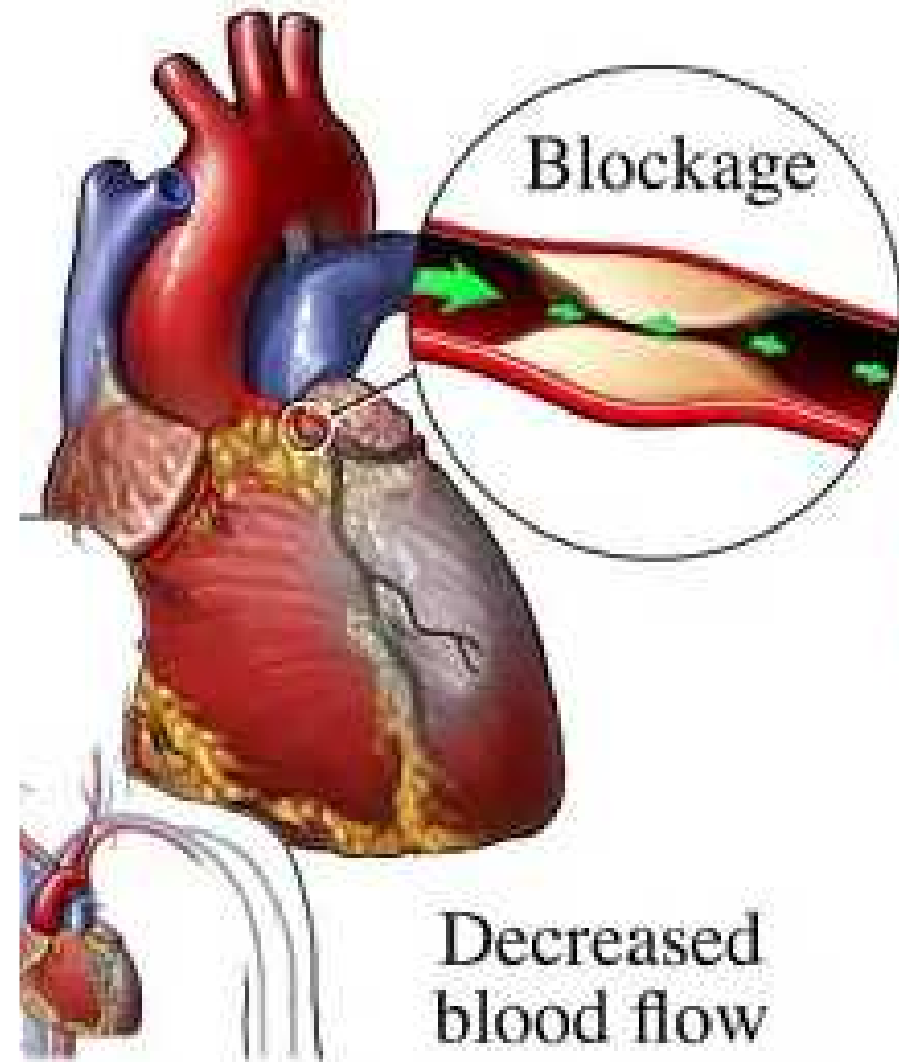
SAGITTAL CUT-AWAY VIEW OF THE INTESTINES (SUPINE)

FIELD OF VIEW DURING OPEN LAPAROTOMY PROCEDURE



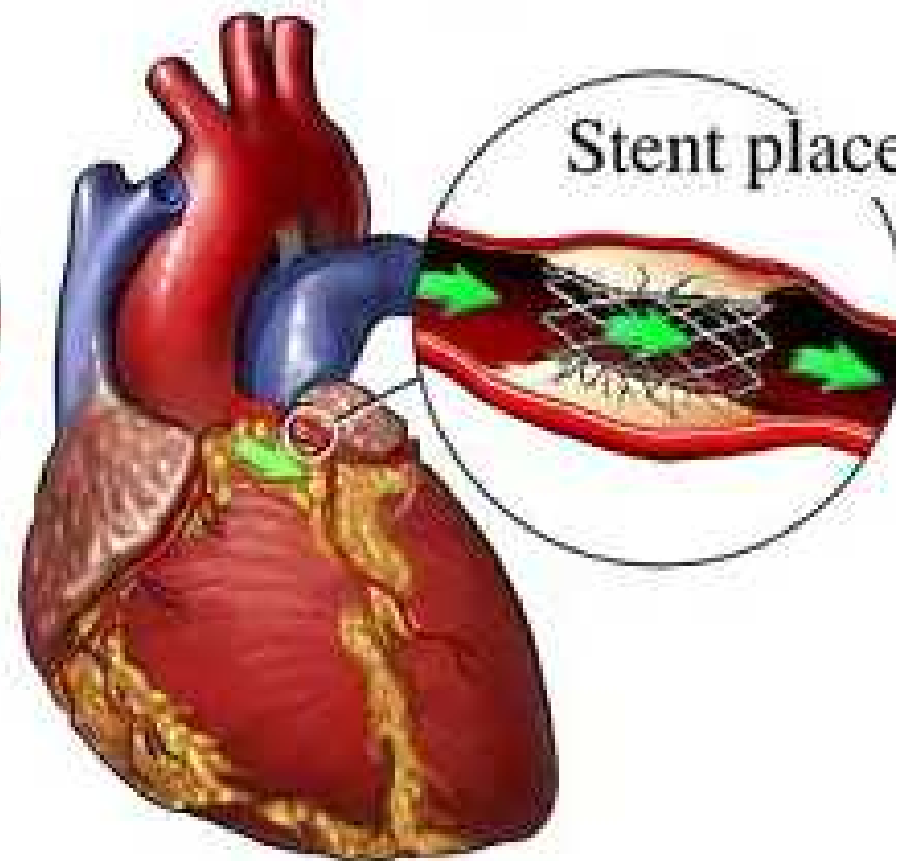
ANTERIOR VIEW OF INTESTINES AS SEEN THROUGH A MID-LINE INCISION

Before procedure



Decreased
blood flow

After procedure



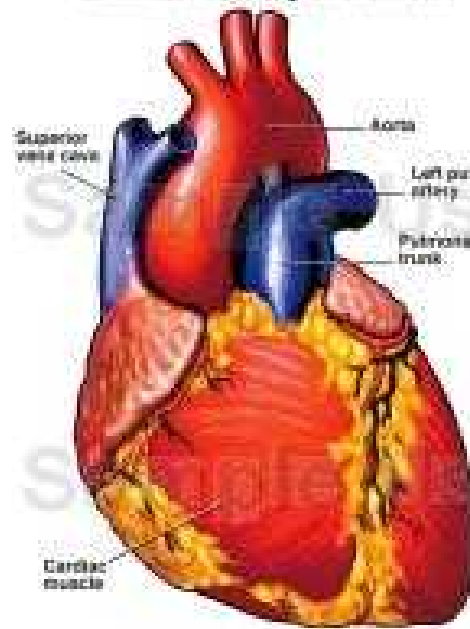
Normalized
blood flow



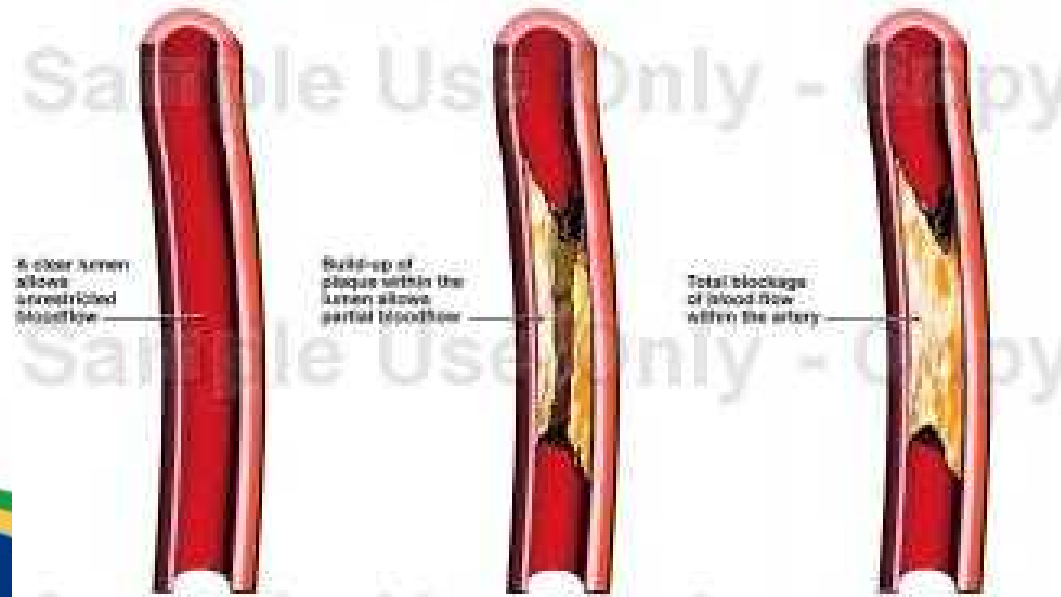
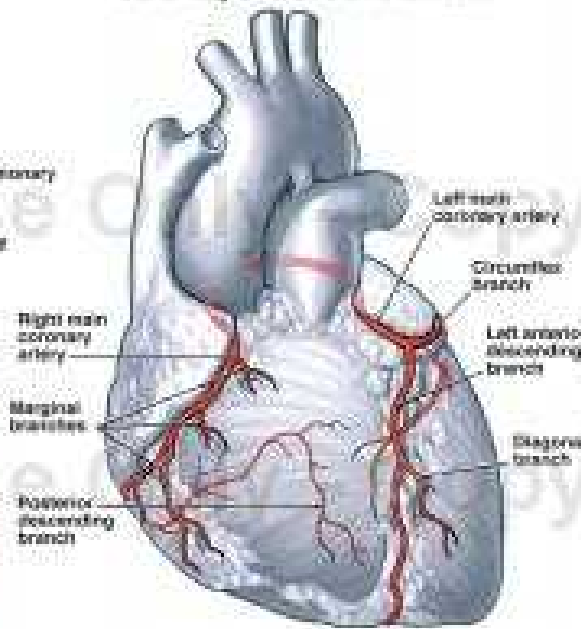
Anatomy of the Heart with Potential Blockage Sites in Coronary Arteries

External Anatomy of the Heart

Coronary Arteries of the Heart



Anterior view



Cross-section view of the coronary artery





Laparoscopic Cholecystectomy Surgery





**Thank
You
DR. N. Graham**