Nerves of Anterior Abdominal Wall

- Intercostobrachial nerve (T1, 2)
- Medial cutaneous nerve of arm
- Long thoracic nerve
- Latissimus dorsi muscle
- Lateral cutaneous branches of intercostal nerves (T2-11)
- Anterior cutaneous branches of intercostal nerves (T1-11)
- Lateral cutaneous branch of subcostal nerve (T12)
- Lateral cutaneous branch of iliohypogastric nerve (L1)
- Anterior cutaneous branch of iliohypogastric nerve (L1)
- Femoral branches of genitofemoral nerve (L1, 2)
- Anterior scrotal nerve (from ilioinguinal nerve) (L1)
- Genital branch of genitofemoral nerve (L1, 2)
- Spermatic cord
- Supraclavicular nerves (anterior, middle and lateral)
- Pectoralis major muscle
- Posterior layer of rectus sheath
- Serratus anterior muscle
- External oblique muscle (cut)
- Anterior layer of rectus sheath (cut)
- Rectus abdominis muscle
- Transversus abdominis muscle
- Internal oblique muscle and aponeurosis (cut)
- Lateral branch of subcostal nerve (T12)
- Anterior branch of subcostal nerve (T12)
- Ilioinguinal nerve (L1)
- Anterior branch of iliohypogastric nerve (L1)
- External oblique aponeurosis (cut)
- Anterior cutaneous branch of iliohypogastric nerve (L1)
- Ilioinguinal nerve (L1)
Muscles

• External oblique muscle
• Internal oblique muscle
• Transversus abdominis
• Rectus abdominis
EXTERNAL ABDOMINAL OBLIQUE

• Origin
  – Anterior fibers: external surfaces of ribs five through eight interdigitating with serratus anterior
  – Lateral fibers: external surface of ninth rib, interdigitating with serratus anterior; and external surfaces of 10th, 11th and 12th ribs, interdigitating with latissimus dorsi

• Insertion
  – Anterior fibers: into a board, flat aponeurosis, terminating in the linea alba, which is a tendinous rephe which extends from the xiphoid
  – Lateral fibers: as the inguinal ligament, into anterior superior spine and public tubercle, and into the external lip of anterior one half of iliac crest.
INTERNAL ABDOMINAL OBLIQUE

• Action
  – Upper anterior fibers: acting bilaterally, the upper anterior fibers flex the vertebral column, approximating the thorax and pelvis anteriorly, support and compress the abdominal viscera, depress the thorax, and assist in respiration. Acting unilaterally, in conjunction with the anterior fibers of the external oblique on the opposite side, the upper anterior fibers of the internal oblique rotate the vertebral column, bringing the thorax backward (when the pelvis is fixed), or the pelvis forward (when the thorax is fixed). For example, the right internal oblique rotates the thorax clockwise and the left internal oblique rotates the thorax counterclockwise on a fixed pelvis.
INTERNAL ABDOMINAL OBLIQUE

• Action
  – Lateral fibers: acting bilaterally, the lateral fibers flex the vertebral column, approximating the thorax and pelvis anteriorly, and depress the thorax. Acting unilaterally with the lateral fibers of the external oblique on the same side, these fibers of the internal oblique laterally flex the vertebral column, approximating the thorax and pelvis. These fibers also act with the external oblique on the opposite side to rotate the vertebral column.
Graham “Mr Europe” Black had his hernia repaired at the Centre on Friday and on Monday he was ‘working-out' at the gym! (not always recommended for the rest of us!)