Anterior Decompression and/or Fusion of the Spine

Introduction
This is a major surgery which utilizes a skin incision over the front of the body to approach the spine

Indication
- Degenerative conditions causing compression of spinal cord or spinal nerves, e.g. intervertebral disc prolapse, posterior vertebral body osteophytes
- Instability of the spine
- Spine fracture
- Spinal tumour
- Spinal infection (usually tuberculous or bacterial)
- Spinal deformity
- Miscellaneous conditions causing spinal cord or spinal nerve damage

The Procedure
- The skin incision is usually on one side in the front of the body
- Surgery is performed depending on individual patient
- A piece of bone will be harvested from the ilium, fibula or a rib to fill the defect at the spinal column (in special conditions synthetic material or allograft may be used)
- Internal fixation devices such as plates and screws may be used if necessary

Risk and Complication

1. Anaesthesia
- Most of the time the surgery will be done under general anaesthesia
- Please ask the anaesthetist for details of anaesthetic complications

2. General
- Excessive bleeding causing shock, stroke, heart attack, etc., which may in turn leading to death
- Injury to the dura causing cerebrospinal fluid leakage or meningitis
- Delayed wound bleeding, haematoma formation and wound infection
- Problems in wound healing or persistent scar discomfort
- Deterioration of pre-existing medical problems, e.g. heart disease and stroke
- Loosening or breakage of internal fixation device
- Failure of bone union
- Problems with iliac crest bone graft donor site such as wound infection, haematoma or persistent ache
- Recurrence or deterioration of the original spine condition

3. Risks Specific to Operative Site

A. Cervical spine surgery
- Haematoma at surgical site causing compression of trachea, which may cause breathing difficulty or even suffocation
- Injury to the esophagus causing swallowing difficulty or even leakage of food into the mediastinum causing mediastinitis
- Injury to the major neck artery or vein causing stroke
- Injury to the thyroid gland causing thyroid hormone dysfunction
- Injury to the nerve supplying the vocal cord causing hoarseness of voice
- Injury to the cervical spinal cord or nerves causing neurological damage, in extreme case may lead to tetraplegia, double incontinence and breathing difficulty

B. Thoracic spine surgery
- Injury to the esophagus causing swallowing difficulty or even leakage of food into the mediastinum causing mediastinitis
- Injury to the lung causing pneumonia or persistent pneumothorax
- Injury to the aorta or vena cava causing torrential bleeding
- Injury to lymphatic vessels causing chylothorax
- Injury to the thoracic spinal cord or nerves causing neurological damage, in extreme case may lead to paraplegia, double incontinence and breathing difficulty.

C. Lumbosacral spine surgery
- Reflex slowing of bowel movement causing abdominal distension and vomiting
- Injury to the aorta or vena cava causing torrential bleeding
- Injury to the abdominal structures, e.g. ureter, kidney, liver, bowel
- Injury to the sympathetic nerves causing dryness and increase in temperature of the involved lower limb. It may also cause erectile dysfunction and retrograde ejaculation in men
- Injury to the spinal nerves causing neurological damage, in extreme case may lead to paraplegia, double incontinence

Before the Procedure
- Optimization of pre-existing medical conditions, e.g. heart disease, hypertension, diabetes mellitus, anaemia, asthma, etc.
- Measurement of external supportive device for spine immobilization after surgery, e.g. neck collar, may be needed
- Blood tests and x-rays of the appropriate regions
- Fast for at least 6 hours before surgery
- Cleaning of the operative site. Shaving of hair may be needed

After the Procedure
- Usually diet is not allowed on the day after surgery

- Analgesics will be prescribed for better pain control and facilitates rehabilitation
- Passing stool and urine will be arranged in bed in the lying position
- Pre-operative practice is beneficial. Sometimes a urinary catheter is used for monitoring and convenience. Usually it will be removed in a few days
- Lower limb exercise is encouraged to reduce the risk of deep vein thrombosis
- Intravenous fluid replacement or blood transfusion may be necessary
- Turning of body is usually allowed within few days after surgery and this will not affect wound healing
- When pain is getting less, sit out and then walking exercise will be started
- Usually patient can be discharged in 1-2 weeks, either back home or to a convalescence

Possible Additional Procedure

- Additional procedures may be needed intra-operatively or after the surgery to tackle the complications, e.g. debridement of wound infection, evacuation of haematoma
- Future removal of the internal fixation device if necessary
- Surgery due to recurrence or deterioration of the original spine problem

Alternative Treatment

- Conservative treatment including physiotherapy and occupational therapy, result depends on individual patient and disease

Follow Up

- You should keep your wound clean and dry
- You must follow instructions strictly on taking medication, see the doctor as scheduled
- If you have any excessive bleeding, collapse, severe pain or signs of infection at your wound site such as redness, swelling or fever, see your doctor immediately or attend the nearby Accident and Emergency Department

Remarks

This is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. The actual risks may be different for different patients. During the operation, unpredictable condition may arise, and additional procedures may be performed if necessary. For further information, please contact your doctor.