

# FAQs for Anterior Lumbar Interbody Fusion (ALIF)



## Introduction

**Anterior lumbar interbody fusion (ALIF)** is a kind of spinal fusion done via anterior approach. We can get access to the spine from the abdomen by using a special corridor called retroperitoneal space. Historically, it is a classical approach for spinal fusion since 1950's. There are several advantages over the posterior spinal fusion including better restoration of the lumbar curvature, more stable in supporting the spine with larger fusion area and without nerve tissue irritation.

Now the **Anterior lumbar interbody fusion (ALIF)** is much different from the past. We use inter-body fusion cage (a plastic rectangular shape device made of an inert substance with physical property similar to bone) with bone substitute packed in the middle. The fusion cage has its own fixation system to stabilise itself into the disc space. Therefore lumbar rigid brace is not required. Earlier recovery in return to normal activities is expected. Bone growth inside the fusion cage to achieve union between 2 vertebrae is usually seen at 6 months.

## Surgery

Our approach to **Anterior lumbar interbody fusion (ALIF)** is simple. The incision is dependent on the level of the disc surgery and is guided by the fluoroscopy in the operating room. Transverse Pfannenstiel incision below umbilicus for L5/S1 disc and longitudinal incision for L4/5 or above is commonly used. The linea alba (midline tendon of the belly muscle) incised and get into the retroperitoneal space. After careful dissection, the major vessels in front of the spine are exposed. After gentle retraction of the vessels, the disc space can be fully exposed. There is minimal bleeding via this approach if there is no challenging vessels around the surgical site.

Standard discectomy can be started by using special instruments. After clean up the disc space, different size trial can be inserted to gauge the size of the cage. Fusion cage implant packed with rBMP and allograft putty will be inserted and fixed with 4 screws. The surgery is completed. After checking any residual oozing, the wound is closed in layers with different sutures. Sometimes we will need to insert a drain at around the fusion area to monitor any oozing after the surgery. The repair is secured and no removal of stitches is required. The dressing is water-proofed to allow patient to go for shower on the next day.

## Risk

Risk of **Anterior lumbar interbody fusion (ALIF)** is low. Under experienced hands, the complication rate will be around 1-2%. Potential risks include wound infection, bleeding (usually 50-100 cc for 1 segment), major vessel injury required repair, peritoneal membrane perforation required repair, bowel injury, prolonged ileus (> 1 week), deep vein thrombosis, incisional hernia, retrograde ejaculation causing infertility (1%), cage migration, loosening, delayed or nonunion. Neurological injury is rare. Sympathetic chain injury causing warm leg is common but usually transient. Residual back pain or leg pain may occurred if there is other factors contribution to the symptoms.

## Rehabilitation

Length of stay in hospital is usually around 4-5 nights. Normally, the patient can resume fluid diet on the same day or the next day. Sometimes, abdominal distension might occur because of the bowel does not move (called ileus) for a short period of time. It normally resolves within 1-2 day(s). Walking and standing help to resolve ileus. Medications will be given to stimulate the bowel to move faster. In rare situation such as complex and prolonged surgery, the ileus can last for a week.

The rehabilitation time is short. The incision heals by 2 weeks. Normally, the patient can resume office work by 2-3 weeks. Physiotherapy rehabilitation protocol will be given to guide the level of activities at different time. Sports can be resumed by 3-6 months depend on the speed of recovery.

Please refer to this website for the surgical videos.

<https://goo.gl/PVousu>