

Nucleus Replacement

patient information

Dec 07

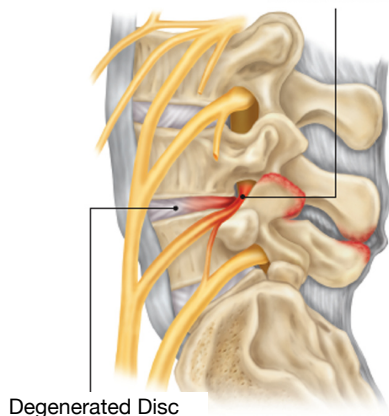
How does the spine work?

The spine is a column of bony vertebrae that supports your body, allows movement, and protects the spinal cord. Between the vertebrae are intervertebral discs. Each shock-absorbing disc has a spongy center, nucleus pulposus, surrounded by tough outer rings and annulus fibrosis. Besides cushioning the spine, these discs allow for flexibility. Nerves branching from the spinal cord pass through openings in the vertebrae to other parts of your body. Several of these nerves form the sciatic nerve, which runs down your leg.

What causes back pain?

As discs lose their water content because of disease or age, they lose their height, bringing the vertebrae closer together. As a result, the nerve openings in your spine become narrow and the discs don't absorb shocks as well, particularly when you are walking, running or jumping. Wear and tear, poor posture and incorrect body movements can also weaken the discs and facets causing degeneration. Disc degeneration not only causes back pain but also may cause functional problems, such as tingling or numbness in your legs or buttocks, or difficulty walking. Doctors call this Degenerative Disc Disease (DDD).

Pinched Nerve Root



What is Nucleus Replacement?

The Nucleus Replacement implant is a radiolucent dynamic stabilization device intended to replace a damaged or dehydrated lumbar intervertebral nucleus pulposus.



The Nucleus Replacement implant is made from polyetheretherketone (PEEK) material, which has been used for medical applications such as dental implants, artificial joints and spinal implants for more than 20 years.

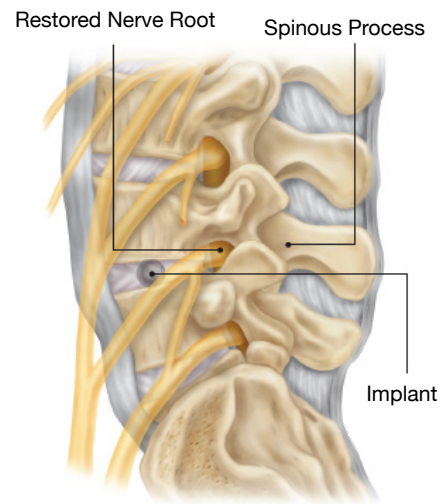
What are the benefits compared to traditional procedures?

Compared with the traditional fusion and artificial disc replacement, the time of procedure is shorter. The incision is much smaller and recovery is also faster. You can be discharged the day after the surgery as compared to 1 to 2 weeks for others having a fusion procedure.

How is surgery performed?

Surgery with the SATELLITE™ System PEEK Nucleus Replacement is performed with you lying on your stomach. An incision a few centimeters long is made along the back of the spine. Then an instrument called a retractor is used to pull back the muscle and tissue so that the surgeon can view the spine.

The surgeon will prepare the area for the implant by removing only the necessary lamina and spinous process. A curette is then used to remove the damaged nucleus. A series of templates are then used to select the appropriate sized implant. The surgeon will then implant the device in the disc space. The operation is completed when the surgeon closes and dresses the incision.



What can you expect after surgery?

Ask your doctor about your specific recovery plan following surgery. It is important to follow your doctor's instructions carefully to recover from surgery as quickly as possible and to increase your chances of a successful outcome. Recovering from back pain and surgery is an ongoing process. How fast you recover depends on the type of surgery you have, your commitment to working closely with your physiotherapist, and moving and exercising correctly, as recommended by your surgeon.

In most cases, immediately after surgery, your heart and lung function will continue to be monitored, a drainage tube may have been left in your incision, and your doctor may prescribe medicines to control pain and nausea.

A nurse will show you how to care for your wound before you go home and your doctor will discuss a program to gradually increase your activity. You may be required to wear a back brace after surgery and you may be told to avoid repetitive bending, lifting, twisting and athletic activities while you recover. You may also be cautioned to avoid vibrations, like you might experience when driving a car, for a period of time after your surgery.

髓核置換手術

患者手冊
07年12月

脊椎如何運作？

脊椎由脊骨組成，用作支撐人體、容許人體作出種種動作及保護脊髓神經的柱狀結構，而每節脊骨之間由椎間盤分隔。每個能吸收震盪的椎間盤擁有海綿狀的中心-髓核，由較堅硬的纖維外環包圍。這個結構令椎間盤保護脊椎，也容許靈活活動。神經線由脊髓神經穿過每節脊骨之間的空隙延伸至身體其他部分。其中數條神經組成坐骨神經，一直向下延伸至腿部。

背痛如何造成？

當椎間盤的水份因病變或年齡增長而流失，椎間盤的高度亦會下降，令脊骨之間的距離拉近。結果，神經線穿過每節脊骨之間的空隙變窄，而椎間盤亦未能吸收當你走路、跑步或跳躍時產生的震盪。長期勞損、不良坐姿及不正確的動作亦會令椎間盤及關節

面縮窄，引致退化。椎間盤退化不單會引致背痛，更會引致機能上的問題，如雙腿或臀部感到刺痛或麻痺，甚至不良於行。醫學上一般把這些病狀稱為椎間盤退化疾病。

甚麼是髓核置換手術？



髓核置換手術的植入物是一個能讓放射線穿透的動態穩定裝置，置換已損毀或脫水的腰椎髓核。

髓核置換物採用聚醚醚酮(PEEK)材質而成，這物料在過去20年均用於醫療應用上，如製造牙科植入物、人工關節及脊椎關節等。

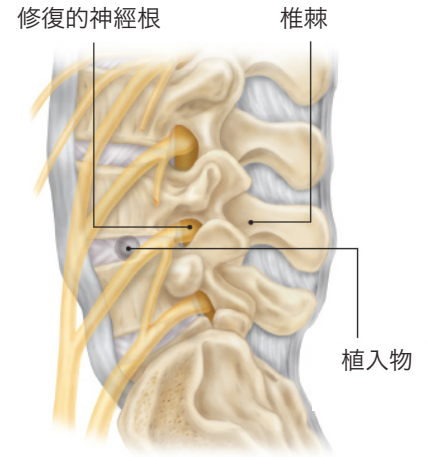
與傳統手術比較有什麼好處？

髓核置換的手術時間比傳統融合手術及人工椎間盤置換手術更短。透過微創技術，病人的傷口更細，康復速度更快。一般接受傳統融合手術及人工椎間盤置換手術的病人約需1-2星期才能出院，但若你進行髓核置換手術，手術翌日便可出院。

手術過程如何進行？

你須俯臥接受手術，醫生會在你脊椎背面開一個幾厘米的小切口。再用擴張器把肌肉拉開讓醫生能檢視脊椎。

醫生把部分骨塊及椎棘除去後，會用刮匙把病變的髓核除去。然後使用不同的模板替你選擇合適大小的植入物，再把植入物置入椎間盤的空隙內。逐層縫合切口後，手術即告完成。



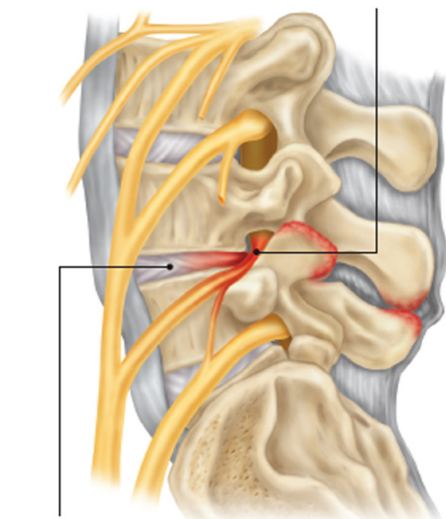
手術後的期望如何？

你應與醫生一起制定手術後的復康計劃，並遵從醫生的指示，讓手術後能以最快的速度康復，並增加手術達至良好成效的機會。背痛及術後的康復是一個持續的過程。康復速度取決於你所接受的手術類別、手術後有否與物理治療師緊密合作，以及有否遵從醫生建議，正確活動及作有關運動。

在大部分的病例中，醫生於手術完成後會立刻監察你的心肺功能，亦會把管道置於手術的切口裡，讓醫生能處方藥物以控制手術後的痛楚及噁心症狀。

出院前，護士會教導你如何料理傷口；醫生亦會制定一套程序以協助病人於手術後逐漸恢復活動能力。於手術後初期，你或需使用腰背護具，以及避免於康復過程中重複彎腰、抬起重物、扭腰及運動。你亦應盡量避免在手術後初期令脊椎受到震盪，如在短期內應避免駕駛。

神經根受壓



退化椎間盤