

Affix patient's label if available

Patient Name

Hospital Number

HKID No.

Sex/ Age

Ward/ Bed

Introduction to regional anaesthesia - information for patients

Introduction

For regional anaesthesia a local anaesthetic drug is injected around a bundle of nerves so that a part of the body, such as an arm or a leg, is made numb. In addition, the muscles in the limb are paralysed whilst the drug is acting so that the limb becomes floppy. Obviously you will still be awake and know that the operation is taking place, but often the anaesthesiologist will administer a sedative drug so that you drift off to sleep during the operation. Even if this is not the case, you will not be able to see the operation because a screen will be placed in the way. Examples of regional anaesthesia are the use of an epidural for pain relief during childbirth, a spinal for an operation on the bladder, and an eye block for cataract surgery. Sometimes regional and general anaesthesia are combined, particularly for major surgery, to provide pain relief after the operation.

An epidural is a type of regional anaesthesia in which a needle is positioned between the bones of the spine which allow the anaesthesiologist to insert a small plastic catheter into the epidural space. The needle is then removed and local anaesthetic (LA) drug is injected through the catheter. This LA moves across the dura into the spinal canal, and temporarily stops the spinal nerves from working, so that sensation and movement in the area supplied by the nerves does not occur. When the effect of the LA wears off, sensation and movement will return. The catheter may be placed in the upper back or lower back, depending on where the effect is needed.

In spinal anaesthesia, a very thin needle is inserted between the bones of the spine, through the dura, and onto the spinal canal, which is filled with fluid. A small amount of LA is injected into the cerebrospinal fluid. This quickly stops the spinal nerves from working, so that movement or sensation below that level of the body will cease. The effect is temporary, lasting only until the LA wears off. Different amounts and concentrations of LA allow the anaesthesiologists to control how high up the body the spinal block reaches and how long it lasts. This is also a very useful and safe way to provide anaesthesia. The onset of spinal anaesthesia is much quicker than with epidural anaesthesia. Epidurals, however, are more flexible for providing analgesia for pain control. If regional anaesthesia fails to provide adequate anaesthesia, general anaesthesia may be added.

Your anaesthesiologist remains with you throughout the operation under regional anaesthesia and monitoring your anaesthetic state. You will go to the recovery ward afterwards until you are safe to go back to the ward.

Complications of regional anaesthesia

We do not have the exact incidences of the anaesthetic and related complications in Hong Kong. However, some data have been collected in some overseas countries and they are quoted for your reference. Please bear in mind that they may not reflect the situation in Hong Kong.

- The incidence of paraplegia in Auroy et al's study was 0.1:10,000. Transient neurological complications are more common. After spinal blocks, the incidence varies between 4-80:10,000. With epidurals, this varies between 1-10:10,000.
- The incidence of spinal or epidural haematoma associated with central neuraxial blocks has been quoted as 1:150,000 for epidurals and 1:220,000 for spinals.
- Epidural abscess and infection associated with central neuraxial blockade occur between 1:1,930 and 1:7,500 cases. In obstetric population, the incidence of epidural infection is reported as 0.2-3.7:100,000.
- The incidence of cranial nerve palsies following regional anaesthesia is 1-3.7:100,000 for obstetric patients.
- Auroy et al reported the mean incidence of cardiac arrest associated with spinal anaesthesia as 6.4:10,000 and epidurals as 1:10,000.
- The risk of systemic local anaesthetic toxicity with epidural techniques is 1:10,000 and none is reported in spinal anaesthesia.
- Post-dural puncture headache (PDPH) is one of the most common complications associated with spinal and epidural anaesthesia and is quoted as 1% (0.6-4.2%).
- Urinary dysfunction is a common complication of neuraxial blocks. Asatila et al reported a 90% incidence of urinary retention with epidural morphine 6 mg, and a 60% incidence with epidural bupivacaine 0.25%. Other authors reported a 1-3% incidence of urinary dysfunction in patients receiving epidural infusions of bupivacaine and fentanyl.
- The risks of systemic toxicity to LA overall in intravenous regional anaesthesia is 1:10,000.
- Brown et al reported seizures during or after brachial plexus blocks is 20:10,000 patients. The incidence was lower in patients having an axillary block (12:10,000) compared with a supraclavicular block (79:10,000).
- Pneumothorax may occur in 6.1% of patients with supraclavicular brachial plexus blocks.

Complications may happen. Knowing about them will help you and your anaesthesiologist detect them early if they happen.

The doctor(s) have fully explained the above to me (the undersigned) which I fully understand.
The doctor(s) have also answered the questions that I have asked.

Signature of Patient

Date

區域麻醉簡介病人須知

簡介

區域麻醉是指將局部麻醉藥注射在一束神經周圍，以令身體某部位如手臂或腿變得麻木。當藥力發作時，肢體的肌肉會如癱瘓般變得軟弱無力。雖然你仍會清醒並知道手術正在進行，但麻醉科醫生通常會使用鎮靜劑，讓你在手術期間不知不覺地入睡。即使你沒有入睡，由於架起布幕，你也不能看到手術進行的情況。區域麻醉的例子有：硬膜外鎮痛分娩、脊椎麻醉膀胱手術及眼部麻醉進行白內障手術。有時，區域麻醉和全身麻醉會並用，特別是在大型手術中，以達至手術後能減輕痛楚之目的。

硬膜外麻醉是區域麻醉的一種，方法是將導針刺在脊椎骨中間，再將一條細小膠管通過導針插入硬膜外的間隙，然後將導針拔除，局部麻醉藥便經由導管注射入內。局部麻醉藥經過硬膜進入脊椎管，使脊椎神經暫停活動，受神經驅使的區域，感覺和活動亦告停止。當局部麻醉藥藥力減退，病人便會恢復感覺和活動。視乎要達至的效果，插入導管的地方可以是腰部、背部或臀部附近。

脊椎麻醉是用一根幼針透過硬膜刺入脊椎骨中間，到達注滿液體的脊椎管，然後將少量局部麻醉藥注射到腦脊液內，迅速令脊椎神經停止活動，身體該處以下的部位便隨即沒有活動能力和知覺。隨著局部麻醉藥藥力減退，病人便會恢復知覺和活動能力。脊椎麻醉是一種安全和有效的麻醉方法，通過使用不同劑量及濃度的局部麻醉藥，麻醉科醫生可控制下身由何處開始麻醉及被麻醉的時間。脊椎麻醉較硬膜外麻醉迅速發揮藥力，但後者則可以靈活地用於鎮痛。若區域麻醉未能達到所需之麻醉程度，便須施行全身麻醉。

利用區域麻醉進行手術的整段期間，你的麻醉科醫生都會在你左右，監察你麻醉時的情況。手術後你會被送往恢復室，直至你適宜返回病房。

區域麻醉涉及之風險

關於在香港因麻醉而導致併發症出現的情況，我們並無實際數字。以下一些外國的數據，卻可供參考，但這些數字未必反映香港的情況。

- 根據 Auroy 等學者的研究，截癱的發生率是 0.1:10,000。短暫的神經系統併發症則較常見，脊椎麻醉後的發生率為 4-80:10,000 不等，硬膜外麻醉後的發生率為 1-10:10,000 不等。
- 脊椎麻醉引致脊椎或硬膜外血腫，發生率為 1:220,000，硬膜外麻醉所引致脊椎或硬膜外血腫發生率為 1:150,000。
- 因脊髓軸麻醉引致的硬膜外膿腫或感染為 1:1,930 及 1:7,500 之間。就產婦而言，硬膜外感染率據報為 0.2-3.7:100,000。
- 就產婦而言區域麻醉後的顱神經麻痺發生率為 1-3.7:100,000。
- Auroy 等學者指出脊椎麻醉引致心動停止的發生率平均為 6.4:10,000，因硬脊膜外麻醉引致的則為 1:10,000。
- 因硬脊膜外麻醉引致局部麻醉藥的系統毒性發生率為 1:10,000，而因脊椎麻醉引致的則暫時並無個案。
- 硬膜穿刺後頭痛是脊椎及硬膜外麻醉後最常見的後遺症之一，發生的機會為 1% (0.6-4.2%)。
- 小便失調是脊髓軸麻醉後一種常見的後遺症。Asatila 等學者指出，硬膜外輸注 6 mg 嗎啡，90%會引致小便滯留，硬膜外輸注 0.25% 布比卡因，60%引致小便滯留。其他作者指接受硬膜外輸注布比卡因及芬太尼，1-3% 出現小便障礙。
- 靜脈區域麻醉引致局部麻醉藥系統毒性為 1:10,000。
- Brown 等學者指出臂從神經阻滯期間及之後引致癲癇為 20:10,000。與鎖骨上阻法比較，接受腋路阻滯法之病人引致癲癇的機會較低 (前者為 79:10,000，後者為 12:10,000)。
- 接受鎖骨上臂從神經阻滯的病人，6.1%會出現氣胸。

請留意併發症的潛在可能，更多的了解將有助你及麻醉科醫生及早察覺可能出現的問題。

上述有關麻醉的情況已由醫務人員向我解釋清楚，有關疑問亦已給予我滿意答覆。

簽署

日期