

New techniques in medicine

Rapid recovery from knee surgery

A new anaesthetic technique that avoids post-op nausea is allowing patients to leave hospital in 48 to 72 hours. **Judy Hobson** reports

WITHIN 20 MINUTES of his patients leaving the operating theatre, and while they're still in the recovery bay, consultant orthopaedic surgeon Tony Smith is at their side encouraging them to do leg raises. Two to three hours later, the patients are out of bed, on crutches walking around and going to the bathroom.

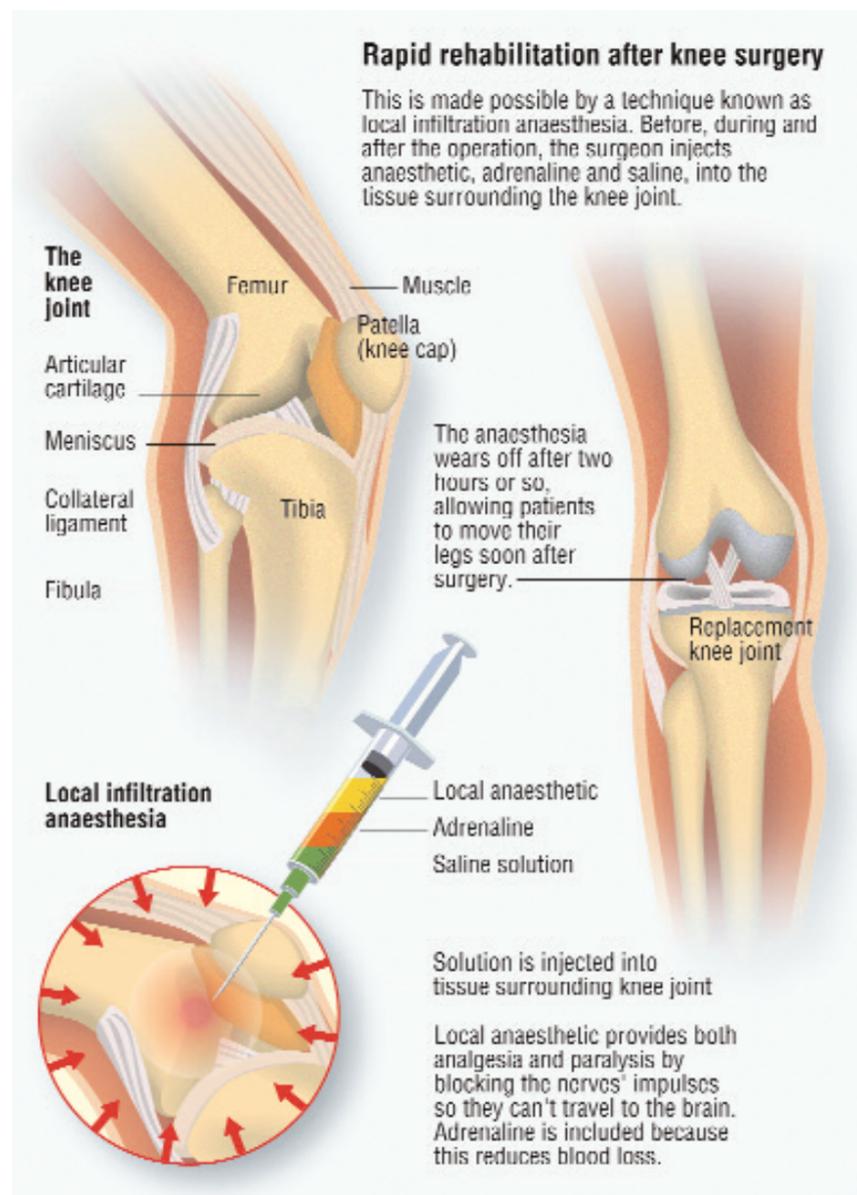
Such rapid rehabilitation after knee surgery is made possible by a technique known as local infiltration anaesthesia. At the start of the operation, during it and at its conclusion, the surgeon injects a solution of local anaesthetic into the tissue surrounding the knee joint. The combined effects of this and oral painkillers mean patients are free of pain after their op and able to get on their feet more quickly than following conventional knee replacement surgery.

Patients are able to go home two to three days after having new knees fitted, with around five per cent leaving hospital within 24 hours. They are back in the driving seat of their cars and playing golf in three to four weeks.

With traditional knee replacement surgery, patients are in hospital for up to a week and do not get out of bed until the second or third day, increasing their risk of DVT (deep vein thrombosis).

Mr Smith, a former medical officer with the Grenadier Guards who specialises in disorders of the knee, has established rapid recovery knee programmes at three hospitals in the Shropshire-Welsh border area over the past 18 months. They are the Robert Jones and Agnes Hunt Orthopaedic Hospital in Oswestry and the Maelor Hospital and the Yale Hospital, both in Wrexham. To date around 250 patients have benefited from the programme.

He says: "While the anaesthetist takes care of the patient's sedation, I inject a high volume of local anaesthetic solution into the knee joint. This is a mixture of local anaesthetic, adrenaline and saline. The amount I use is worked



out in relation to the patient's weight. "Adrenaline is included because this reduces blood loss and means the patient does not need to have a drainage tube after the procedure. I like to leave patients with as little paraphernalia as possible after surgery because this also helps them to become mobile more quickly. Sometimes they may have a fluid drip to

keep them hydrated but this isn't always necessary.

"My scrub team put this local anaesthetic mixture into a series of syringes for me. I start by first cutting open the knee to remove the arthritic joint and then use the mixture to infiltrate the surrounding tissue. I put the new joint in place and infiltrate anything else that

looks angry – anything I touch or cut. On each occasion it takes four to five minutes to do this. It has to be very precise because, if you miss a bit, it will hurt the patient later.

"The secret of rapid recovery is injecting this solution into the inflamed tissue at the start and then into any tissue that has to be cut or manipulated in any way. I also inject it into the wound site after this has been stitched."

In addition to a mild sedative, patients are given spinal anaesthesia for what is an hour-long operation. Spinal anaesthesia is used because this wears off in a couple of hours, allowing patients to move their legs soon after surgery.

Mr Smith says: "Some patients – around a third, usually men with an engineering background – prefer not to be sedated so that they can see what is going on and talk to me. Others opt for a light general anaesthetic.

"Before they even go back on the ward, I visit them in the recovery bay and get them to do leg raises. It gives them confidence to see their surgeon and to know that everything has gone OK and that it's safe for them to start moving their legs.

"On the same day as the operation, patients are encouraged to get up and walk around their beds and do weight-bearing exercises."

A big advantage of the rapid recovery programme is that it enables hospitals to be more efficient, with knee patients needing fewer bed days, freeing the beds for other patients requiring surgery.

But, says Mr Smith, that is only one part of the story. "It is really good for the patients' mental wellbeing to get mobile the same day as their surgery. It makes them realise they are not unwell and that the procedure is really going to make life better for them."

The fact they are expected to be up and dressed the day after surgery, and to understand they are not in hospital to be nursed but to recuperate, is explained to patients during a full discussion before their operation.

Another big advantage is that because patients are up and mobile so quickly, there is less risk of them developing a DVT, a great concern both for them and their surgeons.

In conventional knee replacement surgery, nerve blocks are used to deaden

Barry Oldham: Home within 48 hours of surgery

WHEN RETIRED deputy headmaster Barry Oldham went into hospital to have a knee replacement at the end of January, he was told he might be there for up to five days.

Thanks to the rapid recovery programme that has been introduced at the Robert Jones and Agnes Hunt

Orthopaedic Hospital in Oswestry, however, the 67-year-old grandfather was home within 48 hours.

Barry, who lives in Clun, Shropshire and marks maths exam papers every summer, says: "I felt fit enough to leave the very next evening but it was snowing and the hospital suggested that to be on the safe side I should stay there another night."

Twelve days later Barry dumped his crutches and was back driving his car. On the 17th day after his op he walked a mile for the first time in ages and was 'very chuffed'.

A keen sportsman, Barry had always been fit and healthy until his retirement. He played soccer for many years and even had a trial for Aston Villa, and then switched to playing badminton with his wife Tricia. He believes his knee problems started after running for a bus 17 years ago so he could get into school early.

Barry says: "I cracked my left knee on a brick wall that was jutting out over the pavement. I began getting painful twinges soon afterwards and when I retired at 60 the pain in my knee grew worse, particularly after I'd been out walking or playing badminton."

His GP sent Barry to Ludlow Hospital for an X-ray. "When I returned to see the



doctor, she said my left knee was a write-off. The cartilage had gone and bone was rubbing on bone. I decided to try to hang on as long as possible before having surgery, but this decision has cost me. It meant I started having problems with my right knee because I was putting

all my weight on to that one. Eventually the pain was so bad it stopped me sleeping and I realised I must do something.

"My daughter-in-law Alison is a physiotherapist at the Robert Jones so I asked to be referred there. Although an X-ray at the Robert Jones showed my left knee was worse than my right one, I decided to have the right one replaced first because it was the most painful.

"Just three weeks after the knee replacement I was up a ladder washing the roof of our motor home."

Barry, who has recorded his progress in a diary, says: "My physiotherapist is amazed by my progress. I had the op on the Friday evening and the next morning I was up and shaving myself when my surgeon Mr Smith came round. By 11 am I was on my crutches and walking around the ward and visiting the loo.

Barry can't wait for his other knee to be replaced this summer in the hospital's rapid recovery programme.

"Then in addition to playing with my grandchildren," he says, "I can get back on to the badminton court with Tricia."

pain. This means patients are pain-free afterwards but for 36 hours or so, when the effects of these start to wear off, they are unable to work their leg muscles. Consequently they cannot get to the bathroom for two to three days and need bed pans.

The rapid recovery concept was developed by surgeons in Sydney, Australia. It is available on the NHS. Privately it costs £9500.

Mr Smith, who first started using rapid recovery on knee patients at the private Yale Hospital in Wrexham, believes it is

suitable for everyone who needs a replacement knee whatever their age.

He says: "Some colleagues may differ, but I believe it offers something for everyone, although some much older patients may take a little longer to recover. The average age of my patients is 69. The majority – 95 per cent – go home within 48 to 72 hours while five per cent leave hospital after just 24 hours. "I'm so pleased the three hospitals where I work have allowed me to introduce this technique. I believe this is how knee surgery should be done these days."