Anaesthesia for knee replacement

Before Surgery

Fasting: No food for **6 hours**. You can drink clear fluids up to **2 hours** before surgery (no milk or thickened fluids)

Medications: Take your regular medications as usual unless diabetic or taking blood thinners

PREOPERATIVE CONSULTATION

You will be contacted by the preoperative nursing team and selected patients will also be assessed by one of the peri-operative physicians for a comprehensive assessment. In addition, your anaesthetist will contact you in the week prior to your operation. Any concerns that you have about the anaesthetic will be addressed prior to surgery.

All blood thinners except for aspirin will need to be discontinued prior to surgery

These include W**arfarin, Pradaxa (dabigatran), Eliquis (apixaban), Xarelto (rivaroxoban), Plavix (cloidogrel).** These will need to be stopped between 3 and 7 days before surgery depending on the medication. Please discuss with your surgeon for more details. Fish oil and turmeric should also be ceased.

Anaesthetic risks

Safety is the primary focus of your anaesthetic care. Overall anaesthesia is safe with a low risk of significant complications. Multiple precautions will be taken to reduce your risk of complications, but these may not eliminate all risks.

Please refer to the the **anaesthetic risks section** for further information.

DIABETICS

Avoid taking diabetic medications on the day of your operation

If you take any of the following diabetic medications, please **stop 3 days** before surgery

Jardiance, Jardiamet, Xigduo, Forxiga

Insulin

No insulin on the day of surgery. If taking insulin at night (i.e. lantus), take half your usual dose the night before

BLOOD THINNERS

All blood thinners with the exception of aspirin will need to be discontinued prior to surgery.

Anaesthetic Plan - Summary

The anaesthetic is a combination of general anaesthetic combined with local anaesthetic. This approach ensures adequate levels of comfort in the early post-operative period. This is the usual approach but can be modified for each individual after discussion with your anaesthetist.

1

SPINAL INJECTION

A single injection in your lower spine to numb your legs

Safe, & effective

2

ANAESTHETIC

You will be asleep during the operation with either deep sedation or a general anaesthetic

3

LOCAL ANAESTHETIC CATHETER

Using specialised ultrasound, a soft plastic tube will be placed into your leg to deliver local anaesthetic medication continuously

After surgery

You will receive a continuous delivery of numbing local anaesthetic into your leg for several days via a lightweight portable pump. This will be combined with pain relieving tablets to improve your comfort levels. You will be reviewed daily by a specialist pain team "The Acute Pain Service" (APS team) who can make any required changes.

Examples of typical pain relief medications may include the following:

Paracetamol	Regular simple pain relief
Celebrex	As tolerated, up to 6 weeks
Palexia SR	Twice daily
Palexia IR	As needed for top ups

Your *comfort levels* will be reviewed daily both at rest and after exercise. Your pain medications and doses will be individualised to your needs considering side effects and tolerability.

Waterworks

Initially following surgery, you will be numb and will not feel the need to pass urine. Over time that sensation will return to normal. It is important not to overfill the bladder before normal sensation returns. Just before surgery you will be encouraged to go the toilet to empty your bladder. After surgery you can drink for comfort but be mindful not to drink too much in the first few hours at least until normal urination returns. Approximately 10% of patients will experience some difficulty with passing urine, with a sensation of needing to go but unable to or less commonly wetting the bed. If you feel the need to pass urine but are unable to, an ultrasound over your lower tummy will help determine how full your bladder is. If there is a large volume and the bladder is being stretched a urinary catheter may be required in a small percentage of patients.

Alternatively in selected patients a urinary catheter can be placed before surgery while under general anaesthetic. Please discuss this with your anaesthetist before surgery if you feel this would be a preferable option.

Pain medications – after discharge

SUPPLY OF PAIN MEDICATIONS

On discharge from hospital, you should be supplied with approximately **90** paracetamol tablets, **42** celecoxib tablets and **56** Tapentadol (Palexia) SR (slow release) tablets. This should last up to 4 weeks.

There is a limit on the quantity of Tapentadol (Palexia) IR (immediate release) that can be issued but a quantity of **40** is advised which should last 2 weeks. For other operations the usual limit is 20 tablets, but this is unlikely to be adequate so please ensure you have adequate supply (40) before leaving the hospital.

You will have a booking for a wound review at 2 weeks either with your GP or at The Joint Studio. At that appointment you will need to arrange for a further script for immediate release pain medication such as Tapentadol IR. This should last another 2 weeks.

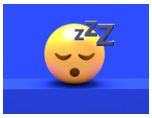
At 4 weeks it is advised that you book in with your GP so that you can receive ongoing advice and support, in addition to further scripts as required. Most patients are well enough to reduce or stop strong opioid medication between 4 and 6 weeks after surgery.

If you are still having difficulties with pain management after 6 weeks, please consult your surgeon for further advice and assessment. This may include referral to a pain specialist.

Pain medications: General timeline

	REGULAR MEDICATIONS Preventative	ONLY AS NEEDED for additional pain	Notes
Week 1	**Panadol Osteo**: 2 tablets, x3 daily **Celecoxib**: 200mg twice daily (or meloxicam 15mg daily) • *Can be omitted if intolerant* ***Tapentadol SR**: • 50 or 100mg twice daily • **The initial dose will depend on your comfort levels and tolerability to the medication*	**Tapentadol IR** 50mg, 1 or 2 tabs every 4 hours as needed for "breakthrough" pain *(After extra activity or physio)* ***Hydromorphone IR*** *(Dilaudid) is an alternative you may be prescribed*	You should be generally reasonably comfortable when resting, however after walking or physiotherapy you may experience more pain which will require additional pain medication Despite regular pain relief it is possible that you may experience periods of severe pain. This is most commonly after physiotherapy Rest, limit physiotherapy to tolerable limits, apply ice Avoid activities that cause severe pain
Week 2	**Panadol Osteo**: 2 tablets, x3 daily **Celecoxib**: 200mg twice daily **Tapentadol SR**: • 50 or 100mg twice daily	**Tapentadol IR** 50mg, 1 or 2 tabs every 6 hours as needed for "breakthrough" pain **p**	You may experience moderate and occasional severe pain most often related to excess activity Rest, limit physiotherapy to tolerable limits, apply ice Sleep disturbance is common
Week 3	**Panadol Osteo**: 2 tablets, x3 daily **Celecoxib**: 200mg twice daily **Tapentadol SR**: • 50mg in morning • 50 or 100mg at night	**Tapentadol IR** 50mg, 1 tab every 6 hours as needed	You are likely to experience ongoing moderate pain particularly after exercise and at night Severe pain should become less common Gradual increase in physiotherapy as tolerated Sleep disturbance is common
Week 4	**Panadol Osteo**: 2 tablets, x3 daily **Celecoxib**: 200mg twice daily **Tapentadol SR**: • 50 or 100mg only at night	**Tapentadol IR** 50mg, 1 tab every 6 hours as needed	You are likely to experience ongoing moderate pain particularly after exercise and at night Gradual increase in activity & physiotherapy Sleep disturbance may continue
Week 5	**Panadol Osteo**: 2 tablets, x3 daily **Celecoxib**: 200mg twice daily **Tapentadol SR**: • 50mg only at night	**Tapentadol IR** 50mg, 1 tab every 12 hours as needed	Your knee should begin to feel more comfortable with most activities Gradual increase in activity & physiotherapy Sleep disturbance may continue
Week 6	**Panadol Osteo**: 2 tablets, x3 daily **Celecoxib**: 200mg twice daily **Tapentadol SR**: • 50mg only when needed not on a regular basis • Aim to stop completely	**Tapentadol IR** 50mg, 1 tab every 12 hours as needed Aim to stop completely	**The aim is to stop taking all strong opioid based pain medications (Tapentadol) by the end of week 6** **If you are unable, please contact your GP or surgeon to discuss options including referral to a pain specialist**

Sleep



SLEEP DISTURBANCE

This is a common issue and may persist for several weeks to months after knee replacement surgery. There is no easy remedy, but it will improve over time.

Firstly, having adequate nightly pain relief is important. You may need a dose adjustment of your Tapentadol SR to improve night-time comfort.

Certain additional medications may help. You can discuss these options with your GP.

1. Melatonin SR – (slow release), available without prescription. For more information see circadin.com.au

2. Melatonin IR - (immediate release). Prescription only. May be more effective that the SR version. Usual dose is 5 to 10mg at night. This is 'compounded' specifically for you and is not available at all pharmacists. May cost ~$50 for 30 tablets. This has no pain-relieving properties.

3. Pregabalin - 25 - 75mg at night. This medication is a moderately strong pain medication that has a sedative property and may help with sleep and comfort. At low doses it is unlikely to have noticeable side effects but at higher doses, side effects may include dizziness, blurred vision, constipation, confusion, strange dreams and very occasionally hallucinations

4. **Clonidine** – 25 – 50 micrograms. Prescription only. This is an alternative pain-relieving medication that also has sedative effects. It may cause lightheadedness and dizziness at higher doses.

Anaesthetic risk: Information sheet

Safety is the primary focus of your anaesthetic care. Overall, anaesthesia is safe with a low risk of significant complications. Multiple precautions will be taken to reduce your risk of complications, but these may not eliminate all risks. A comprehensive medical review prior to surgery is available by a specialist physician for selected patients.

If you have any specific concerns, please discuss these directly with your anaesthetist. You will be contacted directly by your anaesthetist before your operation and will also have an opportunity to ask questions on the day. Following your operation your medical cares will be primarily coordinated by the surgical team, the acute pain team and a specialist physician as required. If any problems arise after your operation, please raise your concerns any time to the nursing or medical staff attending to you. Your anaesthetist will be available as needed and may be contacted by the ward staff for any concerns or advice.

Below is a list which covers most of the important considerations relating to anaesthesia but is not fully comprehensive and does not include specific surgical risks

Common

Nausea (5-20%), drowsiness, dry mouth, sore throat (25%), sleep disturbance
Pain on awakening - this will be treated immediately in the 'recovery room'
Dizziness or lightheadedness
Low blood pressure or heart rate during the first 24-48 hours — (up to 30%)
Urinary retention or inability to completely empty your bladder (10-15%)

Uncommon

Persistent *severe* pain on awakening or in the early postoperative period (~5%)
Confusion, disorientation, and hallucinations are possible but not common (<5%)
Dental injury (0.1%)
Eye abrasions or red painful eye (0.5%)
Postoperative DVT (blood clot in veins in the leg) or PE (blood clot in the lung) (0.65%)
Transient nerve dysfunction (~5%) - persistent numbness/tingling 24-48 hours
- This may occur as a result of surgery, anaesthesia (nerve blocks) or positioning

Rare

Airway emergency under general anaesthetic (1 in 5,000 to 1 in 10,000)
Aspiration of stomach contents into lungs causing pneumonia (1 in 3,000)
Bleeding into the leg related to nerve block injections which may require further imaging, surgery or blood transfusion (0.1%)
Accidental awareness of events during surgery when under 'general anaesthetic' (0.1%)
Allergy to medications (1 in 800 to 10,000)
Permanent nerve injury resulting in sensory change, or weakness of related muscles (1 in 3000)
Permanent nerve injury due to spinal injection (1 in 24,000 to 1 in 54,000)
Infection of a nerve block catheter (1 in 1500)
Bleeding related to a nerve block catheter or injection (1 in 500)
Stroke, heart attacks and pneumonia are all rare but serious complications (<1%)
Fat embolism syndrome (<1%)
– a rare complication related to bone drilling during joint replacement,
– may result in breathing difficulty, confusion, or neurological complications similar to a stroke
Death related directly to anaesthesia
– 3 per million population per annum or ~ 1 in 60,000 procedures nationally