

DAY SURGERY ARTHROSCOPIC ORTHOPAEDIC PROCEDURES - CHW

PRACTICE GUIDELINE[®]

DOCUMENT SUMMARY/KEY POINTS

- Arthroscopic knee surgery is a common orthopaedic surgery using a camera and thin tools to operate within the knee whilst using small incisions to the skin
- Day Surgery Arthroscopic surgeries are a new model of care being introduced in conjunction with MDSU, HITH, Physiotherapy and VirtualKIDS.
- On discharge, patients will have access to the VirtualKIDS team for 48 hours post-surgery
- Patients will receive a visit on day 1 and 2 from HITH who will apply the GameReady Device.
- The GameReady device is a cryotherapy and compression device used to alleviate pain, swelling and oedema post-operatively
- Currently this practice guideline is only applicable for CHW, however, it can be adapted and rolled out to SCH in the future

CHANGE SUMMARY

- New document

READ ACKNOWLEDGEMENT

- Training/Assessment Required – For staff who will be using the GameReady device
- Read Acknowledge – Medical, Nursing and Allied Health Staff utilising this Model of Care

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	SCHN Policy, Procedure and Guideline Committee	
Date Effective:	1 st March 2023	Review Period: 3 years
Team Leader:	Clinical Nurse Educator	Area/Dept: Middleton Day Surgery CHW

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1 Background

Traditionally, all major knee surgery patients are admitted post operatively overnight to monitor and manage post-operative pain and allow for Physiotherapists to assess mobility prior to discharge.

With the increasing emergency workload and higher acuity patients requiring overnight admission, these patients are often waiting up to 12 months for their surgery, often with multiple cancellations during that time.

With the advancement in technology, many major knee surgeries can now be performed arthroscopically, thus reducing the recovery time post-surgery. This, combined with the introduction of virtual services delivering ongoing post-operative care after discharge, provides an opportunity for this cohort of patients to be operated on sooner, preventing psychological and physical impacts on their wellbeing.

1.1 Arthroscopic Knee Procedures

Arthroscopic knee surgery is a common orthopaedic surgery using a camera and thin tools to operate within the knee whilst using small incisions to the skin.

The arthroscopic procedures that will be performed under the new model of care include:

- Anterior Cruciate Ligament (ACL) Reconstruction
- Meniscus Repairs
- Knee Arthrotomy
- Medial Patellofemoral Ligament (MPFL) Reconstruction

2 Inclusion and Exclusion Criteria

In order for patients to be considered for day surgery arthroscopic procedures, they need to meet certain inclusion and exclusion criteria.

2.1 Inclusion criteria

- Age 11 or older
- > 40 kg body weight
- Live within 1 hour drive of CHW

2.2 Exclusion criteria

- Have major medical comorbidities
- Require multi-ligament surgery
- Will require post-operative PICU care
- Live further than 1 hour from CHW

- Pre-existing opioid usage
- Morbidly obese

3 Preoperative Assessment and Planning

Preoperative process is as follows:

- Orthopaedic surgeons assess injury and determine eligibility for day surgery model of care
- Patients and their family are to be notified during clinic visit of day surgery model of care and will be placed on the elective surgery waitlist

When the patient has been given a surgery date patients will return to the Orthopaedic outpatient clinic where they will receive information on:

- Post-operative analgesia
- VirtualKIDS
- HITH attend the clinic appointment to complete home risk assessment and consent forms in preparation for home visits
- Physiotherapy to assess mobility and proficiency with crutches

If at any stage the patient no longer meets the inclusion criteria or HITH criteria, the patient will be removed from the day surgery model of care.

4 Pre-Operative Care

On the day of surgery patients will:

- Present to Middleton Day Surgery Unit (MDSU)
- Be seen by the anaesthetist where anaesthetic options will be discussed
- Meet with the surgeon and consent will be obtained (if not completed during preadmission appointment)
- Nursing staff provide pre-operative education and answer any questions.

5 Anaesthetic Considerations

In addition to routine anaesthetic procedures, additional considerations need to be put in place for these patients.

5.1 Aim

- Well controlled pain
- Patient to remain relatively awake post-operatively so they are able to mobilise safely
- Minimal post-operative nausea and vomiting (PONV)

In order for the patient to mobilise safely with the physiotherapist, ideally, the peripheral intravenous cannula will be placed in a location other than the dorsum of the hand.

6 PACU and Post-Operative Management

6.1 MDSU

In addition to normal operating procedures (refer to [Care of Patients in Middleton Day Surgery Unit](#) practice guideline) additional considerations need to be made for these patients.

Once the patient is awake and is maintaining own airway, ice to be applied to the affected limb.

The GameReady device will be placed on the affected leg in PACU 1 whilst the patient is in bed at 15 minute intervals by the Physiotherapist with assistance from MDSU nursing staff.

These patients may have increased analgesia requirements, patient is to stay in PACU 1 until pain is well controlled. Refer to [Intravenous Opioid Administration in Todman and Middleton Post Anaesthetic Care Units - CHW](#) practice guideline.

The patient will be transferred to PACU 2 with assistance from the physiotherapist. The physiotherapist will assess:

- Safe mobilisation with crutches
- Safe transfers in and out of chair and on/off bed
- Provide education and demonstration of elevation techniques

The patient will remain in PACU 1 for at least 1 hour and then will remain in PACU 2 for 3 – 5 hours depending on pain levels and mobility.

Once the patient is transferred to PACU 2 the GameReady device will be placed on the affected limb at 15-minute intervals by the physiotherapist.

6.2 Discharge from MDSU

The patient must meet the routine discharge criteria (refer to [Care of Patients in Middleton Day Surgery Unit](#) practice guideline) as well as receiving the following information/ resources/ education:

- Opioid prescription filled and collected from pharmacy
- Family given extra dressing material provided to patient (1x tubigrip, 1x combine and 1x crepe bandage)
- Education on VirtualKIDS after-hours support and when to expect a phone call from VirtualKIDS

On discharge from MDSU, nursing staff must provide verbal handover to VirtualKIDS nursing staff. MDSU staff to transfer patient to HITH bed board.

6.3 VirtualKIDS

Once home, parents are able to contact VirtualKIDS in the first 48 hours post-surgery. VirtualKIDS are to contact the patient/family 4 hours post discharge to follow up on patient progress and address any concerns the patient or family may have. VirtualKIDS Clinical Nurse Consultants are to be given an escalation plan to follow when communicating with patients and their families (see appendix).

Should a patient be required to present to the Emergency Department (ED) overnight, VirtualKIDS CNC to notify the ED Admitting Officer and the orthopaedic registrar on call of expected arrival

6.4 HITH

HITH staff will receive a verbal handover from VirtualKIDS staff on day one post-operation. HITH will visit the patient on day 1 and 2 to review the patient, apply GameReady device, complete observations and change dressings if required.

HITH will then discharge the patient from their services after 48 hours.

6.5 Patients Requiring Overnight Admission

A patient may need an overnight admission if they:

- Experience high levels of PONV
- Experience severe pain uncontrolled by IV or oral opioids
- Are deemed unsafe by the physiotherapist to mobilise on crutches
- Have an intraoperative event and require overnight monitoring

If the patient does not meet the discharge criteria and requires an overnight admission, MDSU nursing staff must notify VirtualKIDS via phone to prevent the patient being called whilst still in hospital.

7 GameReady

The GameReady machine is a device that helps reduce post-operative pain, swelling and oedema by providing cryotherapy and compression therapy to the affected limb.

There will be 2 GameReady devices located in MDSU and 2 located in HITH.

On discharge parents need to provide their own ice to fill the machines.

7.1 Adverse Events

During the course of therapy, patients, families, nursing and physiotherapy staff, should monitor the skin of the treated region, the surrounding area and the digits of the extremities of the treated limb (if applicable) for any burning, itching, increased swelling, or pain. If any of these signs are present, or any changes in skin appearance occur (such as blisters, increased redness, discoloration, or other noticeable skin changes), patients are advised to discontinue use and are to contact the treating team.

If an adverse event occurs in relation to the GameReady, the patient may not be suitable for discharge on day of surgery and may need an overnight admission.

7.2 Cleaning and Maintenance

It is the responsibility of the nursing staff and physiotherapists to clean the GameReady devices after each patient use. Please refer to the GameReady User Manual for cleaning and maintenance instructions.

7.3 Use

The control unit must be filled with ice and water to the recommended fill lines prior to connecting to the patient.

When the control unit is full, 2 staff members (or a staff member and parent for HITH), to lift the control unit together using safe manual handling procedures.

The Control Unit should be placed on a stable surface (such as the floor or a table) during use.

To prevent delay in therapy, it is important to prime the system prior to connecting to the patient.

- With the control unit off, attach the Connector Hose to the Control Unit and the Wrap
- Lay the Wrap open and flat next to the Control Unit (not on the body)
- Turn the System on and run for 2 minutes with No Pressure
- The wrap is now ready for use and therapy may begin as instructed

For further instruction please refer to the GameReady User Manual.

8 Evaluation

As this is a new Model of Care being implemented in MDSU, HITH and VirtualKIDS, an evaluation of the care received is to occur.

The pre-evaluation is to take place on admission to MDSU by the family/patient and the post-evaluation is to take place 3 weeks after surgery on follow up.

The evaluation forms are found in the appendix of this document.

References

1. Australian College of Operating Room Nurses (ACORN). (2006). ACORN Standards for Perioperative Nursing. Australia, Sydney.
2. Australian and New Zealand College of Anaesthetists (ANZCA). (2006)
3. Australian Orthopaedic Association Limited. (2020). *Short-term day surgery model here to stay: AOA urges transparency, ethics, and patient centred models.*
4. GameReady Control Unit User Manual (2019)
5. The Sydney Children's Hospital Network. (2020). *Elective and Urgent Operating Sessions: Management-CHW [Policy].*

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Appendix 1 – VirtualKIDS Questionnaire

Issue	Reason	Action
Pain	Primary reason for calls	<ul style="list-style-type: none"> • Paracetamol <u>Oral</u>: 15mg/kg (up to 1g/dose) every 4 - 6 hours PRN. Maximum 60mg/kg/DAY, not to exceed 4g/DAY <u>Rectal</u>: 15-20mg/kg/dose (up to 1g/dose) every 6 hours PRN. Maximum 60mg/kg/DAY, not to exceed 4g/DAY • Ibuprofen <u>Oral</u>: 5-10 mg/kg/dose (up to 400mg/dose) every 6 - 8 hours PRN. Maximum 40mg/kg/DAY, not to exceed 2.4g/DAY (with food) • Oxycodone <u>Oral</u>: 0.1 – 0.2mg/kg/dose (up to 10mg) every 4-6 hours PRN (max 4 doses per day) • Elevate leg • Remove Tubigrip (if present) • Continue ice pack 10mins on, 10 mins off • VirtualKIDS staff to call back in 1 hour and handover to HITH • Physio/nurse review in the morning during HITH visit.
Bleeding	From time to time, patients may notice some bleeding at site of surgery.	<ul style="list-style-type: none"> • Take a photo of bleeding and email/SMS to VirtualKIDS CNC • If spotting on the island dressing, leave it alone • If blood oozing out of dressings, apply combine over the top and wrap leg tight with crepe bandage over the combine dressing • Reassure parent that the swelling is expected and stick to the plan • Physio/nurse review in the morning during HITH visit. <p>If blood soaks through combine/crepe, advise parents to present to emergency department</p>
Swelling	It is normal to experience some swelling in the foot and shin distally after surgery	<ul style="list-style-type: none"> • Check toes are still warm and pink and moving normally • Reassure parent that the swelling is expected and stick to the plan • Nurse review in the morning during HITH visit.
Numbness	It is normal to experience some numbness distally after	<ul style="list-style-type: none"> • Reassure parents that the numbness is expected for the first 24 hours. • Nurse review in the morning during HITH visit.

	surgery, mainly due to the local anesthetic that can take 24 hours to wear off	
Nausea	It is rare to develop nausea hours after leaving hospital. It is unlikely to be related to the surgery	<ul style="list-style-type: none"> Some people have a reaction to the opioid analgesia. If this is happening, and it does not settle with simple measures then VirtualKIDS to escalate to medical team Nurse review in the morning during HITH visit.
Skin Rash	It is uncommon to develop a skin rash but can arise as a reaction to pain medication	<ul style="list-style-type: none"> Take a photo of the rash and email/SMS to VirtualKIDS CNC if advised.
Fall		<p><i>Did the patient hurt the knee or another body part?</i></p> <ul style="list-style-type: none"> If it was the knee, get into a comfortable position (leg elevated, pillow under knee, apply ice pack, take analgesia, give it some time) Follow post-operative knee pain protocol (see above) <p><i>If it was another body part, is there a deformity or major swelling?</i></p> <ul style="list-style-type: none"> If so rest, ice elevate and give it 30 minutes If there is an obvious clinical deformity such as a wrist fracture, patient will need to attend emergency department

Appendix 2 – Pre-Evaluation Survey

Arthroscopic Day Surgery Pre Survey

Date: _____

1.

	Not prepared		Very prepared		
I feel prepared for my upcoming surgery	1	2	3	4	5

2.

	Not useful		Very useful		
How useful was the information provided in preparation for surgery					
• Brochure/ QR code					
• Discussion with surgeon	1	2	3	4	5
• Assessment and training with physiotherapist	1	2	3	4	5
• Other _____	1	2	3	4	5
	1	2	3	4	5

Please provide any comments: _____

3.

	Not confident		Very confident		
I feel confident with my recovery at home plan (i.e. I know what to expect and who to contact if I have any questions or concerns)	1	2	3	4	5

4. Any additional comments/feedback

Appendix 3 – Post-Evaluation Survey

Arthroscopic Day Surgery Post Survey

Date: _____

1.

	Not well		Very well		
I felt well informed about my surgery and recovery plan	1	2	3	4	5
Please comment on your rating: _____					

2.

	Not well		Very well		
I felt well cared for post-surgery in Middleton Ward before being discharge	1	2	3	4	5
Please comment on your rating: _____					

3.

	Not helpful		Very helpful		
Being home on the same day as my surgery was helpful	1	2	3	4	5
Please comment on your rating: _____					

4.

	Not helpful		Very helpful		
I felt the use of the game ready device helped my recovery	1	2	3	4	5

5.

	Not helpful		Very helpful		
I found the follow up from VirtualKIDS overnight helpful	1	2	3	4	5

6.

	Not helpful		Very helpful		
I felt the home visits from HITH were beneficial and aided my recovery	1	2	3	4	5

7.

	Not satisfied		Very satisfied		
Overall I'm satisfied with my care	1	2	3	4	5

Please comment on your rating: _____

8. Thinking about your whole day stay knee surgery experience, is there anything that we could do better for the next patient?

