The Royal Melbourne Hospital

Virtual Fracture Clinic

Implementation Guide

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  - Prof George Braitberg
  - Dr Mark Putland
  - Dr George Plunkett
- Executive Sponsors
  - Adam Horsburgh (Deputy CE/COO)
  - Dr Cate Kelly (Executive Director)
- Victorian Department of Health and Human Services: Better Care Victoria

Project Advisory Group (PAG)

Membership

- Executive Sponsors
- Project Lead
- Representatives from: Department of Orthopaedic Surgery, Emergency Department, Radiology Department, Outpatient Department, & General Practice Liaison
- VFC co-ordinators
- Consumer representatives

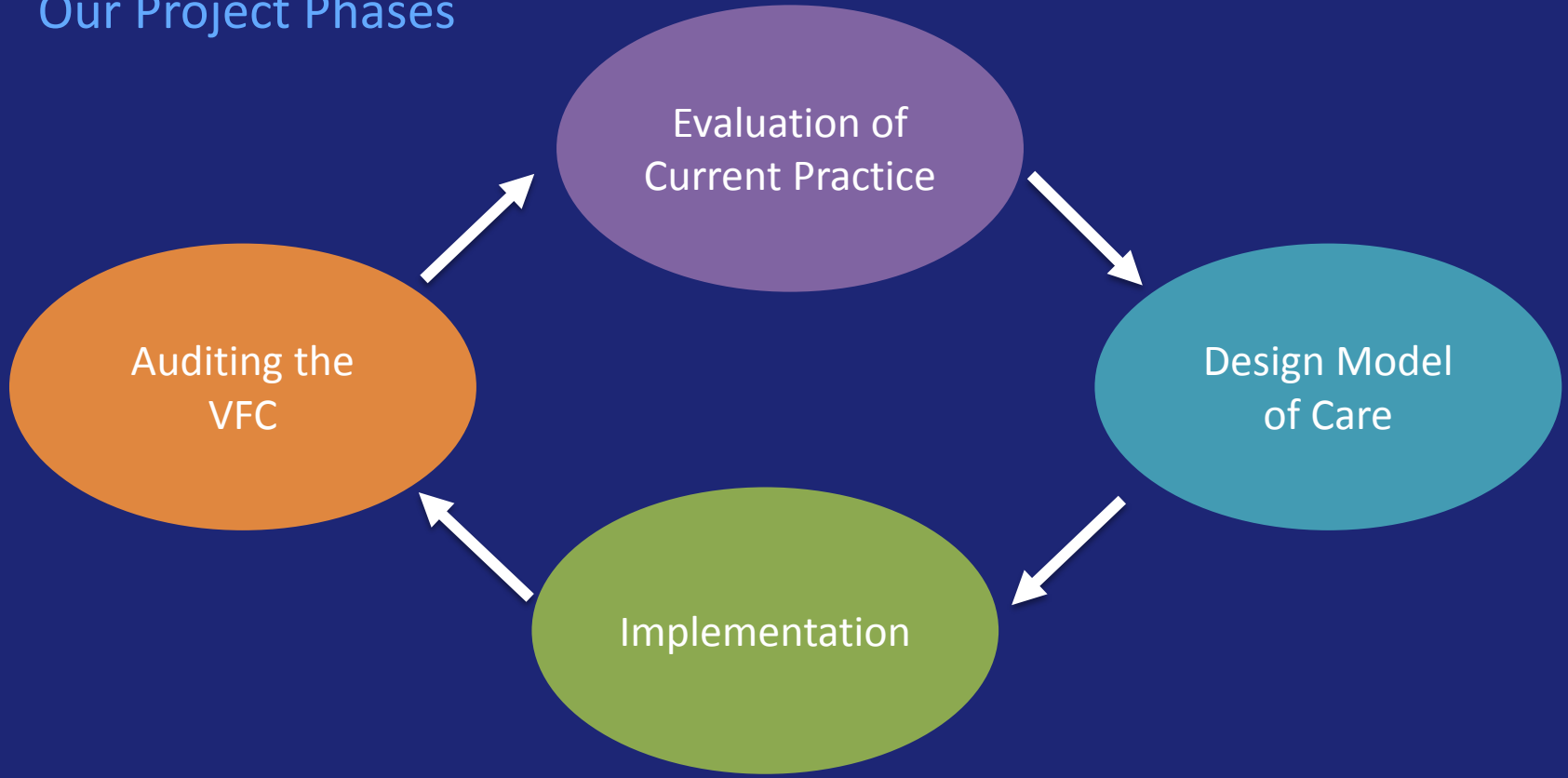
Role

- Support the conduct of the project: provide input & advice regarding progress & issues arising
- High-level oversight for the project
- Facilitate support for the project & future implementations within the organisation
- Provide input into progress/final reports to the funding body

Project Team - Membership

Project Lead	Clinical Leads	Subject Matter Experts
• VFC coordinator (Previous project leadership/change management experience desirable)	• Orthopaedic consultants (e.g. representatives from subspecialties including upper limb, lower limb, spine, trauma) • ED physicians	• Director of Outpatients • PACS administrator/radiology • Allied Health • General Practice Liaison • Statistician

Our Project Phases



Evaluation of Current Practice – what we identified

1. What was our problem?	• Increased Emergency Department (ED) attendance for non urgent musculoskeletal conditions • Variation in management of simple orthopaedic conditions between clinicians • Demand for Outpatient (OP) clinic appointments exceeded capacity • Patients not always booked to see the right person in the right place at the right time?
2. What was the scale of our problem?	• Increasing number of referrals to OP clinics from the ED • OP clinic activity: overbookings (demand), high 'did not attend' rates (potentially patient feels appointment not required), low discharge rates, incorrect bookings • No standardised guidelines for the management of common orthopaedic conditions
3. What were the root causes?	• Limited engagement with primary care for management of simple orthopaedic conditions • Clinician dependent patient management = variation in care •ED referrals booked to outpatient clinic without clinician input into triage

Design Model of Care (MoC) – you will need to decide

1. Your Model of Care

(this will be influenced by many factors including funding/clinician FTE & availability)

- Who will make the clinical decisions - orthopaedic consultant vs senior physiotherapist vs nurse? (consider scope of practice/upskilling/credentialing)
- How many clinics will you run per week? (dependent on staff availability)
- How will you roster clinicians and cover leave?
- What will be your KPI for response to referral? (we aimed to contact patients within 2 working days of referral)

2. The Scope of your VFC

- Referral source: RMH VFC accepts referrals only from RMH ED (GP fracture referrals are managed via OP clinics)
- Conditions: simple fractures +/- acute soft tissue injuries +/- chronic conditions
- Eligibility criteria (inclusions and exclusions)

3. Your Clinical Guidelines

- Develop robust clinical management guidelines for common conditions
- Consult with ED, orthopaedic technicians, MSK physiotherapists
- Determine when VFC episodes require deferral to in person consultation

Implementation – tips for success

1. Focus on Communication	• Clear communication between orthopaedic team and ED regarding minimal assessment requirements to facilitate virtual management • Effective communication of change in practice to key groups: ED, orthopaedic team, administrative staff, Allied Health, orthopaedic technicians • Immediate communication when there is deviation from guidelines • Immediate communication of failures
2. Develop Resources & Processes	• Find a dedicated space for clinic: noise levels, privacy, proximity to orthopaedic team • Obtain a range of devices: PC, mobile phone, headset, tablet • Electronic access to radiology is essential • Devise a fast track pathway for urgent imaging (MRI & CT) • Develop templates to minimise administrative duties • Create a dedicated orthopaedic technician clinic template for VFC patients
3. Determine Modes for Patient Communication	• You need a clear pathway for patients to be able to access an orthopaedic opinion • Condition specific brochures: refer to our brochures on website • Have a dedicated VFC land line number, mobile phone number (handy for SMS/MMS) & email account

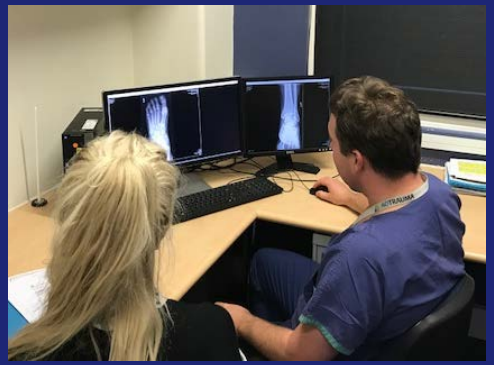
Auditing – ongoing evaluation is essential for safety

1. Decide what data you will collect	• Set a pilot period for data collection to test efficacy and safety of model e.g. 6 months • Identification of failures with root cause analysis • Qualitative data including feedback from key stakeholders • Patient satisfaction surveys/feedback
2. Perform detailed analysis of failures	• What was the adherence to the guidelines? Gain feedback • Identify & amend any sections which require clarity or are associated with risk • Communicate changes to all stakeholders
3. Modify your MoC as required.	• Expand or reduce scope of service? • Service efficiencies • Modes of communication

This is our VFC MoC

1. ED: referral made to orthopaedic service

2. Consultant Triage: diagnosis & management plan



Outpatient clinic

VFC Review

Discharge

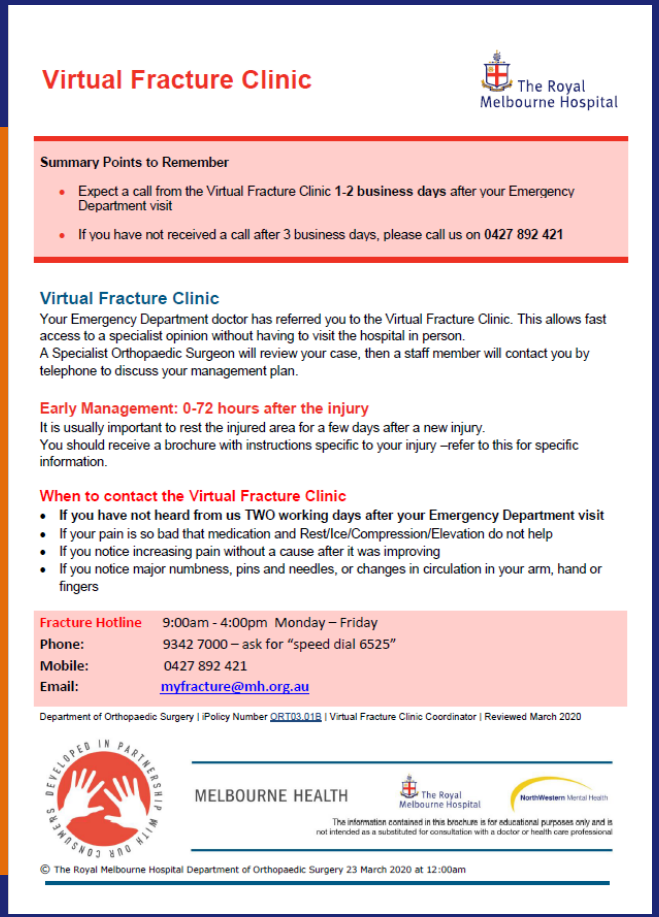
Other service / specialty

3. VFC: Telephone call to patient

RMH VFC MoC

ED referral

- ED directly discharge patients not requiring orthopaedic consultation
- Patients requiring orthopaedic consultation are discharged from ED without an appointment – they are provided the brochure and referral sent to VFC
- Clinical decision tools set for proscription of correct sling/brace/boot - ED avoid use of full POP (to minimise need for patient reattendance)
- Patient provided with condition specific brochure (common conditions only)



Virtual Fracture Clinic

The Royal Melbourne Hospital

Summary Points to Remember

- Expect a call from the Virtual Fracture Clinic **1-2 business days** after your Emergency Department visit
- If you have not received a call after 3 business days, please call us on **0427 892 421**

Virtual Fracture Clinic

Your Emergency Department doctor has referred you to the Virtual Fracture Clinic. This allows fast access to a specialist opinion without having to visit the hospital in person.
A Specialist Orthopaedic Surgeon will review your case, then a staff member will contact you by telephone to discuss your management plan.

Early Management: 0-72 hours after the injury

It is usually important to rest the injured area for a few days after a new injury.
You should receive a brochure with instructions specific to your injury –refer to this for specific information.

When to contact the Virtual Fracture Clinic

- **If you have not heard from us TWO working days after your Emergency Department visit**
- If your pain is so bad that medication and Rest/Ice/Compression/Elevation do not help
- If you notice increasing pain without a cause after it was improving
- If you notice major numbness, pins and needles, or changes in circulation in your arm, hand or fingers

Fracture Hotline	9:00am - 4:00pm Monday – Friday
Phone:	9342 7000 – ask for "speed dial 6525"
Mobile:	0427 892 421
Email:	myfracture@mh.org.au

Department of Orthopaedic Surgery | iPolicy Number ORT03.01B | Virtual Fracture Clinic Coordinator | Reviewed March 2020

DEVELOPED IN PARTNERSHIP WITH OUR CONSUMERS

MELBOURNE HEALTH

The Royal Melbourne Hospital

NorthWestern Mental Health

The information contained in this brochure is for educational purposes only and is not intended as a substitute for consultation with a doctor or health care professional

RMH VFC MoC

Consultant Triage

- VFC conducted 4 days per week
- Roster: 2 advanced practice physiotherapists & 6 orthopaedic consultants
- Physiotherapist collates referrals & identifies exclusions
- All referrals presented to consultant
- Consultant provides diagnosis & management plan (with reference to clinical guidelines)
- Time per referral <2mins

Ineligible for virtual management

- Admitted patient
- No imaging available on PACS
- Non English speaking without English speaking proxy
- No Medicare
- High velocity trauma
- Open fracture
- Neurovascular concern
- Pregnancy
- Spine condition
- Existing consultant plan

RMH VFC Non-operative Clinical Guidelines

The Royal Melbourne Hospital Virtual Fracture Clinic Non-operative Guidelines

	Weight bearing	Splint / cast / boot	Follow up	Rehabilitation	Return to driving (+ as pain / strength allow)	RTW / Activity	Other (Hygiene / sleep - as comfortable)
Suspected Scaphoid # (clinically tender)	NWB until MRI If #: COTWB in spica cast	ED thumb spica backslab - keep until after MRI + review If #: Wk 0-6: Thumb spica Backslab/POP	<1 wk urgent : MRI/CT + VFC review If # = 3wks: frack clinic with R/O cast + XR before If no # = D/C with no splint	NA	# = 8 wks (cast off) no # = when cleared/cast removed	Labourer: # = 10 wks No # = when cast off Sedentary: when comfortable	Backslab 24/7 (remove only for MRI)
Dorsal triquetral # Dorsal hamate #	0-5 wks COTWB	wk 0-5: Backslab/Thermoplastic splint	No routine follow up	Wk 0-4: Finger / elbow ess in splint Wk 4-5: CJID Splint off for wrist ROM	5 wks	Labourer: 6 wks Sedentary: when comfortable	Splint off for hygiene & at 4 wks off for sleep
Distal radius min displaced #	0-6 wks COTWB	wk 0-5: Backslab / POP wk 5+: wrist splint if liked (PRN use) COST: $55	1 wk: XR + VFC review 5 wks RMH frack physiotherapy review	wk 0-5: Finger / elbow ess in cast / splint (may inc. gentle pro/supination as tol) wk 5-6: wrist ROM wk 6+: gradual loading as tol	6 wks	Labourer: 6-8 wks Sedentary: when comfortable	NA
Ulnar shaft isolated min displaced (“night stick”)	0-6 wks COTWB	wk 0-6: Backslab / AEPOP	2 wks: XR + VFC review 6 wks: Frac clinic with R/O cast + XR before	wk 0-6: Finger / shoulder ess in cast	8 wks - pending ortho review	Labourer: 8-10 wks Sedentary: when comfortable	NA
Elbow simple dislocation	0-4 wks COTWB	wk 0-2: Broad arm sling	No routine follow up	wk 0-3: Shoulder / hand ess wk 3-4: Elbow ROM wk 4+: gradual loading as tol	4 wks	Labourer: 6 wks Sedentary: when comfortable	Sling off for hygiene & sleep
Radial head min displaced # Radial neck min displaced #	0-6 wks COTWB	0-72hrs: Broad arm sling 72hrs+: Sling PRN	No routine follow up	0-72hrs: Shoulder / hand ess 72hrs+: Elbow ROM CJID	6 wks	Labourer: 6 wks Sedentary: when comfortable	Sling off for hygiene & sleep
Medial epicondyle #	0-6 wks COTWB	wk 0-2: Broad arm sling	No routine follow up	wk 0-2: Shoulder / hand ess wk 2-6: Elbow ROM wk 6+: gradual loading as tol	6 wks	Labourer: 6 wks Sedentary: when comfortable	Sling off for hygiene & sleep
Shaft of humerus # - radial n intact	0-6 wks NWB 6-12 wks COTWB	wk 0-1: AE backslab + C&C wk 1-6: Sarmiento + C&C (wk 2 if very swollen) wk 6-12: Sarmiento COST: $230	2 wks: XR + VFC review 6 wks: XR + VFC review 12 wks: frac clinic with XR before	wk 0-4: Pendular + active biceps/triceps (standing) CJID wk 4-6: shoulder flex/abdn ROM to 90° wk 6-12: add ER ROM wk 12+: gradual loading (pending ortho)	12 wks	Labourer: 4 mnths Sedentary: when comfortable	Sarmiento off for hygiene only
Shoulder # A: Proximal humerus # B: SINOH # C: GT undisplaced #	0-3 wks NWB 3-6 wks COTWB 6-12 wks <5kg	A / B : wk 0-6: C&C elbow@90° (unless specified by VFC consultant) C: wk 0-6: Broad arm sling	1 wk: XR + VFC review	wk 0-4: elbow ess + pendular / passive wk 4-6: shoulder active assisted ROM wk 6-8: AROM wk 8+: strength (max 5kg until wk 12)	12 wks (or 6+ wks if physically cleared ROM/strength by doctor/physio)	Labourer: 3-4 mnths Sedentary: when comfortable	Sling off for hygiene only
Shoulder anterior inferior dislocation A: Primary 20-35 yo B: Primary <20yo or >35yo C: Recurrent	0-6 wks <5kg 6+ wks gradual loading	A / B: wk 0-3: Broad arm sling strongly recommended C: wk 0-3: Broad arm sling advised as comfortable	Must have had post reduction XR A: No routine follow up B / C: 3-4 wks: Consultant Clinic	wk 0-2: scap + isometric submax ess (<500g) wk 2-6: loading <5kg *No shoulder end range ER/abdn or overhead contact for 6 wks	2+ wks - when out of sling and able to lift arm with no pain	Labourer: 6 wks Sedentary: when comfortable Sport: affected side to achieve >85% strength of contralat side	Sling off for hygiene & sleep
Clavicle # - Skin ok (no tenting)	0-6 wks COTWB	wk 0-4: Broad arm sling	No routine follow up	wk 0-2: Elbow/hand ess and supine self-assisted shoulder flexion wk 2-4: AAROM upright wk 4-6: AROM wk 6+: gradual loading (when non-tender)	6 wks	Labourer: 6-8 wks Sedentary: when comfortable	Sling off for hygiene & sleep if pillow behind arm/shoulder
AC Joint Gr I & II dislocations & STI	0-3 wks COTWB 3-6 wks <5kg	wk 0-2: Broad arm sling	No routine follow up	wk 0-2: Elbow / hand day 10+: Shoulder ROM wk 4: gradual loading/strengthening	2+ wks - when out of sling and able to lift arm with no pain	Labourer: 6-8 wks (earlier if cleared ROM/strength by physio) Sedentary: when comfortable	Sling off for hygiene & sleep if pillow behind arm/shoulder
Scapula # - low demand, no rib #	0-3 wks COTWB 3-6 wks <5kg	wk 0-2: Broad arm sling	No routine follow up	wk 0-2: Elbow / hand day 10+: Shoulder ROM wk 4: gradual loading/strengthening	3+ wks - when able to lift arm with no pain	Labourer: 8-10 wks Sedentary: when comfortable	Sling off for hygiene & sleep if pillow behind arm/shoulder
Ankle stable # - lateral/medial malleolus #	WBAT	wk 0-6: Camboot COST $80	No routine follow up Gravity stress XR if requested by consultant	72hrs+: ankle ROM (boot off) CJID wk 6+: Ankle ROM, strength, balance	Auto L) ASAP Auto R) / Manual 6 wks (out of boot)	Labourer: 6 wks Sedentary: when comfortable	Camboot off for hygiene & sleep
Ankle # - NWB/unstable	wk 0-6: NWB	wk 0-6: BK POP (or camboot if spec by VFC consultant)	No routine follow up	wk 0-6: toe ROM wk 6+: Ankle ROM, strength, balance	Auto L) ASAP Auto R) / Manual 6 wks (out of boot/cast)	Labourer: 8-10 wks Sedentary: when comfortable	POP/Camboot to sleep for 6 weeks. Can wipe/wash foot in camboot
Ankle sprain Fibula Avulsion #	WBAT	PRN: OFF ER camboot to all COST $80	PRN: physiotherapy STI clinic	wk 0-1: RICE / ankle ROM wk 2+: calf strength / balance / stretches Trial brace or tape PRN	Auto L) ASAP Auto R) / Manual when camboot weaned	Once function allows	NA
Achilles non-op management (per existing protocols)	wk 0-2 NWB wk 3 25% WB camboot wk 4 50% WB camboot wk 5 75% WB camboot wk 6 WBAT camboot	wk 0-2: equinus cast (frontslab) wk 2-6: camboot with heel raises wk 6-8: gradual remove heel raises wk 8+: wean camboot COST $120 (boot & heel raises)	If no ultrasound - refer to clinic (referral for US not required) No routine follow up	Per Oppy/Tymms non-op protocol (refer to physio at wk 1)	Auto L) ASAP Auto R) / Manual 8-12 wks (out of boot)	Labourer: 10+ wks On feet all day: 6+ wks Sedentary: 3 wks	Camboot off at 8 wks for sleep
Foot # (inc MTT & tarsal avulsion)	WBAT	wk 0-6: camboot (up to 8 wks if needed) wk 6+: comfortable wide footwear COST $80	No routine follow up	72hrs+: ankle ROM CJID 4 wks+ (earlier if specified) : calf strength/ WB stretches / balance	Auto L) ASAP Auto R) / Manual 6 wks (and out of boot)	Labourer: 6-8 wks (and out of boot) On feet all day: 6+ wks Sedentary: when comfortable	Camboot off for hygiene & sleep
5th MTT #	WBAT	wk 0-6: camboot (6-8 wks as needed) wk 6+: Comfortable wide footwear COST $80	No routine follow up	72hrs+: ankle ROM CJID 4 wks+ (earlier if specified) : calf strength/ WB stretches / balance	Auto L) ASAP Auto R) / Manual 4 wks when camboot weaned	Labourer: 4 wks Sedentary: ASAP as pain allows Running: 12 wks	Camboot off for hygiene & sleep
Toe fractures	WBAT	wk 0-4: wide front shoes (eg. Ugg, Blundstone, sneaker) wk 0-4: Buddy strap PRN	No routine follow up	No ess required	As tolerated	Labourer: 3-4 wks labour Sedentary: ASAP as pain allows	Shoe off for sleep
Tibial Plateau #	0-4 wks: 10% WB 5-8 wks: 50% WB Wk 9+:WBAT	Nil	No routine follow up	ASAP: Knee / ankle ROM /quads exercise	Auto L) ASAP Auto R) / Manual 8 wks	Labourer: 8 wks Sedentary: when comfortable	NA
Patella undisplaced #	WBAT	wk 0-6: ZKS (ext for ambulating)	6 wks: XR + VFC review (No XR for vertical #)	wk 0-3: static quads / ankle ess wk 3: ROM CJID (out of brace)	Auto L) ASAP Auto R) / Manual 6 wks	Labourer: 8 wks Sedentary: when comfortable	Splint off for hygiene & at 4 wks for sleep
Patella dislocation	WBAT	wk 0-2: ZKS (wean ASAP)	2 wks: fracture clinic	wk 0-2: RICE / quads wk 2+: ROM PF brace or taping for symptoms	Auto L) ASAP Auto R) / Manual 2 wks when splint weaned	Labourer: 3-4 wks Sedentary: when comfortable	Splint off for hygiene & sleep
Knee Soft Tissue Injury	WBAT	wk 0-2: ZKS (wean ASAP)	2 wks: physiotherapy STI clinic	ASAP: RICE / quads / knee ROM PF brace or taping PRN	Auto L) ASAP Auto R) / Manual when splint weaned	Once function allows	Splint off for hygiene & sleep

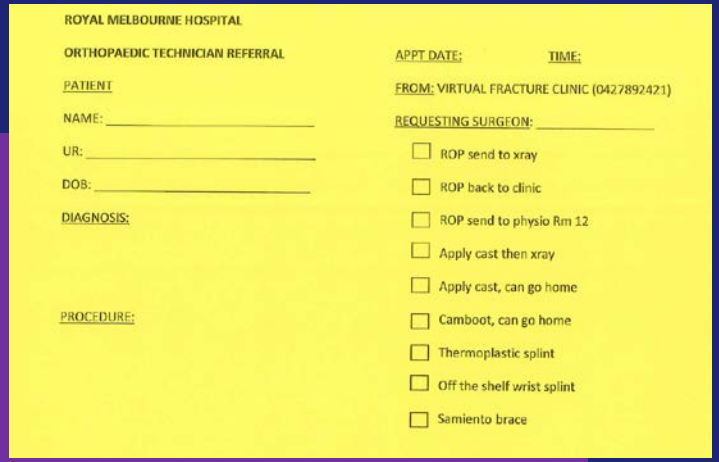
Last updated October 2019

RMH VFC MoC

Telephone call

- The physiotherapist calls patients who are:
  - for virtual management
  - in need of ‘work up’ for an outpatient appointment
- Provides consultant diagnosis
- Completes clinical assessment – if there is clinical concern, significant deterioration, patient declines virtual management etc. a clinic appointment is scheduled
- Discusses management plan including: follow up (outpatient appointment; VFC review, discharge +/- GP review, referral to another specialty or hospital, surgery), further imaging, weight bearing restrictions, exercises/referral to physiotherapy etc.

RMH VFC MoC



ROYAL MELBOURNE HOSPITAL

ORTHOPAEDIC TECHNICIAN REFERRAL

APPT DATE: TIME:

PATIENT

FROM: VIRTUAL FRACTURE CLINIC (0427892421)

NAME: _____

REQUESTING SURGEON: _____

UR: _____

- ☐ ROP send to xray
- ☐ ROP back to clinic
- ☐ ROP send to physio Rm 12
- ☐ Apply cast then xray
- ☐ Apply cast, can go home
- ☐ Camboot, can go home
- ☐ Thermoplastic splint
- ☐ Off the shelf wrist splint
- ☐ Samiento brace

DOB: _____

DIAGNOSIS:

PROCEDURE:

After the telephone call

The physiotherapist completes the following (where required)

- Schedule review appointment(s)
- Requests additional radiology / imaging
- Referral to orthopaedic technician for new cast/sling/brace etc. and schedule appointment
- Referral for physiotherapy (if indicated)
- Letter to GP regarding management and follow up requirements
- Email to patient: instruction summary; medical certificate; rehab instructions; copy of GP letter
- Text message with appointment instructions
- Medical certificates

Example email to patient (distal radius fracture)

Dear **<insert name>**
Please find attached an information sheet detailing the rehabilitation following distal radius fractures and an electronic copy of the letter sent to your local doctor.
In summary:

1. You will have a below elbow cast for a total of 5 weeks from the day of your injury.
2. You may choose to wear a supportive wrist splint for a few weeks after the cast is removed. This can be purchased from the plaster room (for $55) or from most local pharmacies. Alternatively, we can provide you with a thermoplastic splint (cost covered by Medicare).
3. No lifting anything more than a cup of tea / mobile phone (less than 250g) with the injured arm for 6 weeks from the date of injury.
4. No driving for 6 weeks.
5. No physical work for 6-8 weeks (as pain and wrist / hand strength allow).

Exercises: Start the exercises in the attached brochure. After 5 weeks the cast will be removed and you will be assessed by a physiotherapist.
Specialist review: You **do not** need to have any further appointments with the orthopaedic doctors.
If you still have pain after 3 months despite physiotherapy and rehabilitation, make an appointment to see your local doctor – you may require a referral to see our orthopaedic doctors.
Plaster clinic appointments: <insert date and time> level 1 west fracture clinic RMH. Please check in at reception.
Please contact us if you have any questions or concerns.
Kind regards
The Virtual Fracture Clinic
Mobile: 0427 892 421
Email: myfracture@mh.org.au
Monday – Friday | 9:00am – 4:00pm
Outpatient clinic queries
Phone: 9342 8738
Surgical queries
Phone: call 9342 7000 and ask for the Orthopaedic Liaison Nurse
If you have a compliment, complaint or suggestion relating to the **Virtual Fracture Clinic**, please use this online form or email your feedback to **consumerliaison@mh.org.au**
**** Please note – this email inbox is only monitored during business hours. In an emergency, you should call 000 or present to your local Emergency Department.**

SMS: no answer to call

Dear x, please call us regarding your injury. Kind regards, Virtual Fracture Clinic Royal Melbourne Hospital

SMS: notification of appointment

Dear x, you have an appointment for a cast change on Thursday 12/3 at 2pm, level 1 west Fracture Clinic Royal Melbourne Hospital. Please check in at reception. Following the cast change go to Radiology Level 1 for your x-ray. You can then go home. We will call you on Friday with the results and plan. Kind regards, Virtual Fracture Clinic

In Summary we highly recommend…

1. Identify key stakeholders & establish clear communication
2. Scope – pilot a small number of conditions with predictable clinical outcomes
3. Rigours application of clinical guidelines
4. Effective method for patients to return to the ‘bricks and mortar’ clinic system
5. Data collection and auditing to identify areas of failure and risk