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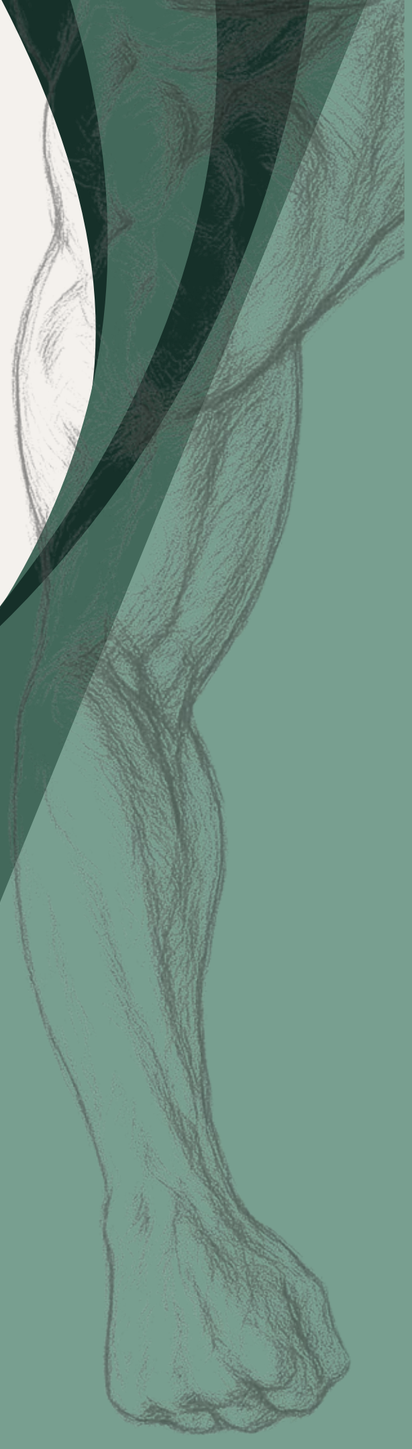
ORTHOPAEDIC SURGEON

Pyrocarbon Hemiarthroplasty

Rehabilitation Protocol



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What is a Pyrocarbon Hemiarthroplasty

- Also known as Hemi-PYC
- This is a joint replacement solution for arthritic shoulder with **an intact rotator cuff** that does not involve resurfacing the glenoid so to **avoid early wear and revision**.
- It is reserved for patients with arthritis who are **young and active or maintain an occupation or life that involves sports and heavy lifting**.

Why Pyrocarbon?

- Pyrocarbon is a material that has similar characteristics to bone (co-efficient of friction)
- It causes less wear of the glenoid (the cup of the shoulder)
- It causes minimal inflammatory response

What are important factors in Hemi-PYC?

- The rotator cuff must be normal
- The recovery is slow and needs to be so – in order for the subscapularis tendon to heal
- Recovery is not a fast process – 12-24months

Phase Overview

Note: The following protocol is intended as a guide for you and your physiotherapist, and some patients may need personal modifications**.**

Never push through sharp pain and always respect your external rotation limits.

Exercises should be repeated 3 x daily, 5 days a week.

Phase 1

Protection & Early Motion
(Weeks 0-4)

Phase 2

Range of Motion ONLY
(Weeks 5-8)

Phase 3

ROM optimization and early strengthening
(Weeks 8-12)

Phase 4

Conditioning
(3-6 months)

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Important Movement Restrictions

- **Individualised Recovery – the most important part of this surgery**
- **Gentle Movement:** ROM should be *pain-free and as tolerated* — never force end-range.
- **Team Communication:** Ongoing contact between surgeon, physiotherapist, and patient ensures safe progress.
- **Healing Takes Time:** timelines are guides and may need extending.
- **Protect the Repair:** Avoid jerky, lifting, or pulling movements early; respect healing limits.
- **Functional Limitations:** sling for at least 6 weeks. No driving for 8-12 weeks depending on rehabilitation and pain control. You will need at least 6 weeks off a desk job and 6 months off heavy labour.

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Phase 1 Protection & Early Motion (Weeks 0-4)

Goals: Protect the subscapularis Repair; Pain control; swelling control; maintain distal joint mobility (elbow, wrist and hand)

Precautions: Sling full time, except for shower (keep arm by side)
No active shoulder movement in particular external rotation of the shoulder.
Active assisted elbow, wrist and hand exercises only
Use ice packs periodically to help with swelling
Keep wound dry and intact for 2 weeks

Progressions:
Weeks 0-2: start gentle pendular and scapula setting from day 1 post op.
No shoulder range of motion passive or active. **No shoulder external rotation.**

Weeks 3-4:
Start with supine active assisted shoulder elevation <90deg with shoulder **in internal rotation.**
External rotation limits: from abdomen to neutral only and not beyond

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Phase 2 Range of Motion Only

Weeks (5-8)

Goals: Wean the sling by week 6. Increase AAROM.

Precautions: Avoid weight-bearing through arm.

Progression:
Weeks 5-6: Can commence AAROM standing.
Can do shoulder flexion with stick max 90deg.
External rotation to 15deg only.

Weeks 7-8: AAROM to 120deg
External rotation to 30deg

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Phase 3 ROM optimization + early strengthening

(Weeks 9-12)

Goals: Improve active range of motion.

Precautions: Avoid sudden or heavy loads. Avoid overhead push exercises.

Progression:

- Forward flexion to 150deg
- External rotation to 45deg
- Supine shoulder abduction
- Slide arm stretches on table
- Can commence light theraband work in IR/ER

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Phase 4 Conditioning

(3 months-6months+)

Goals: Aim for return to functional activities and regain strength

Precautions: Avoid heavy overhead lifting unless cleared. Avoid push resistance exercises (bench press and shoulder press)

Progression: Increase resistance, introduce sport/functional specific drills.
Can do light bent over rows and seated rows.

Return to Work / Sport: Golf ~12+ weeks, swimming (breaststroke ~ 5 weeks, freestyle ~ 12 weeks). For body building/weight lifting aim for closed chain exercises only.

Maintenance: Long-term shoulder strengthening and control.

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Key Principles for your Recovery

- Follow surgeon-set movement limit – particularly external rotation.
- Avoid pain and sharp sudden movements.
- Focus on control, posture, and gradual progression – not speed.
- Regular physiotherapy reviews ensure safe and steady recovery.