



A Fact Finding Mission:

**Discharge Criteria and LoS Data for Total
Joint Replacement**

Fremantle Hospital & Health Service (FHHS)



Tertiary hospital facility in Western Australia performing more than 400 Total Joint Replacements (TJR) annually.



RITH

(Rehabilitation in the Home)

Allied Health and Medically staffed rehabilitation program providing community based rehabilitation for patients at FHHS, including TJR patients.

HITH

(Hospital in the Home)

Nursing staffed program providing a community nursing service for patients at FHHS, including TJR patients.



RITH and HITH

Work closely together to provide home based care for TJR patients with a principle aim being to promote early hospital discharge.

The elective TJR early discharge program commenced as a part of HITH more than 10 years ago.



Orthopaedic Clinical Pathways

Inpatient TJR pathway - incorporates the pre-admission and in-patient stay. Directs the patient's progress from pre-admission to surgery and through hospital rehabilitation. It keeps the patient on track to early discharge to home from day 2 to 6.

TJR Patients are expected to be discharged from the hospital to their home on or before day 6.

Community TJR pathway - takes over once the patient has been discharged home.



Orthopaedic Clinical Pathways

Pathways are medical and multidisciplinary documents and are agreed to by all interested parties. They are reviewed regularly to reflect evidence based changes to health care.

Before a patient can be discharged home from the hospital they must meet specific **Discharge Criteria**.



Discharge Criteria

Functional - (TKR & THR)

- independent / safe with appropriate aid (transfers, ambulation, stairs as required)
- independent in self care tasks (or have the appropriate carer assistance)
- THR - aware of hip precautions if any

Physical – (TKR & THR)

- medically fit for discharge
- pain controlled
- wound – clean and dry
- TKR - ROM : >70 flexion, extension < -10 degrees
 Quadriceps lag < 10 degrees
- **ROM and Quadriceps lag criteria relaxed**

Patients must consent for home visiting



Retrospective Notes Audit

A notes audit of patients who had undergone TJR surgery over a 14 month period at FHHS was performed.

Jan 08 to Feb 09 inclusive

The focus was on **TKR** as it was only these patients who had discharge criteria relaxed.

Exploratory data analysis was performed to see if changing the discharge criteria for these patients affected outcomes.

For the purpose of this review only primary TJR were included.



Discharge data (FHHS)

Jan 08 to Feb 09 inclusive

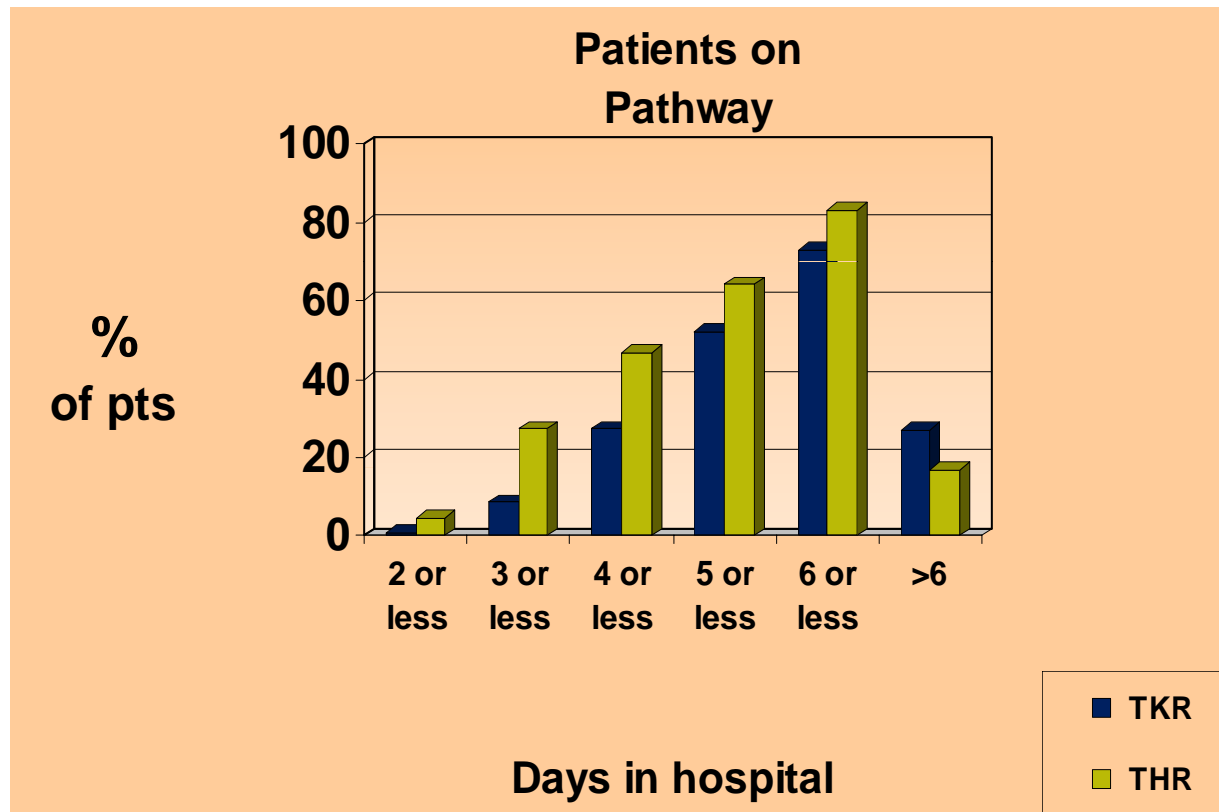
	Average LoS FHHS
THR & TKR	5.59days
THR	5.08 days
TKR	5.99 days

N = 394 pts - 221 TKR, 173 THR

(LoS - Day of surgery to disch home)

Discharge data (FHHS)

Jan 08 to Feb 09 inclusive



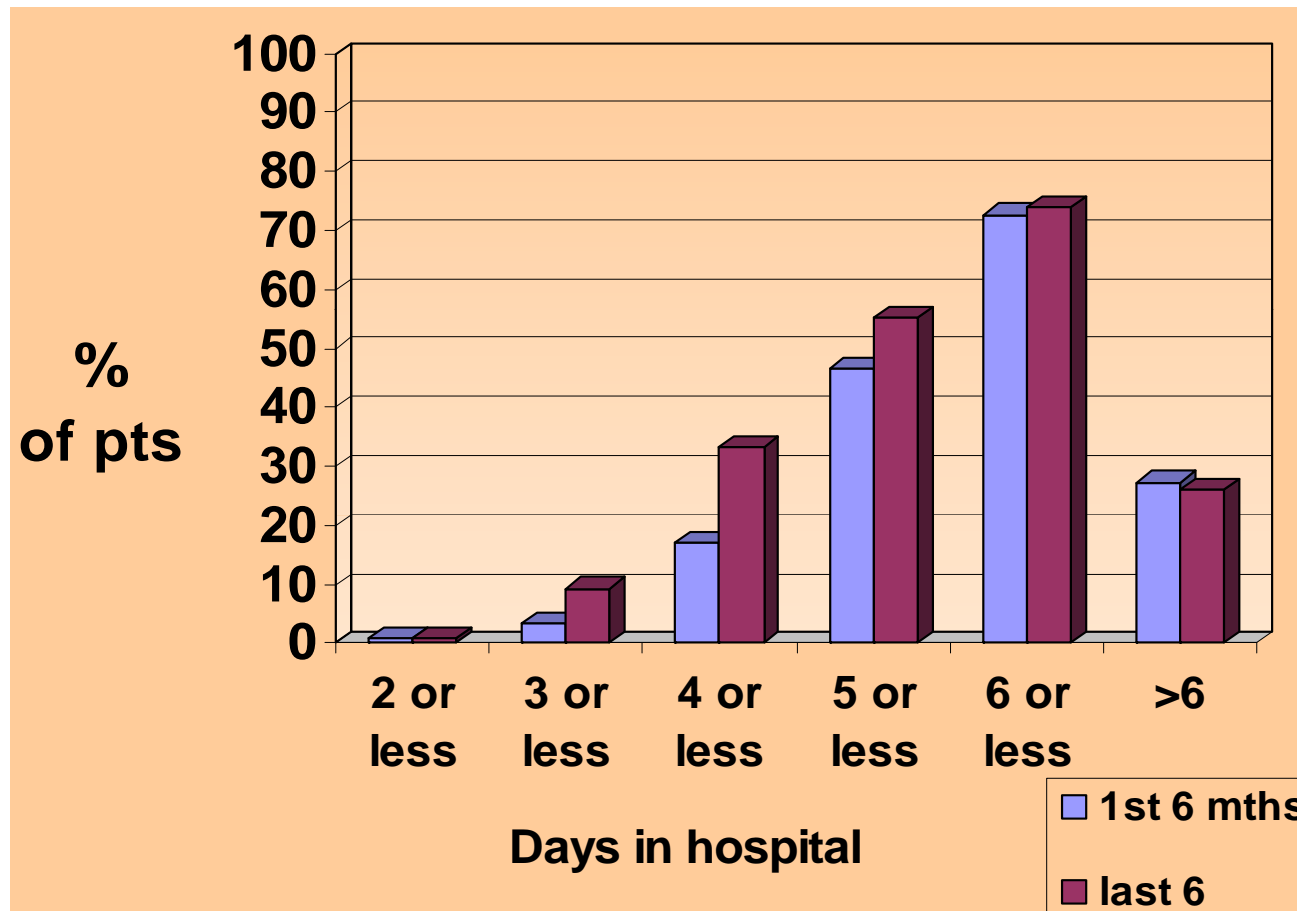
83.2% of THR pts go home on pathway
72.8% of TKR pts go home on pathway
(ie day 6 or less)



Discharge data (FHHS) TKR

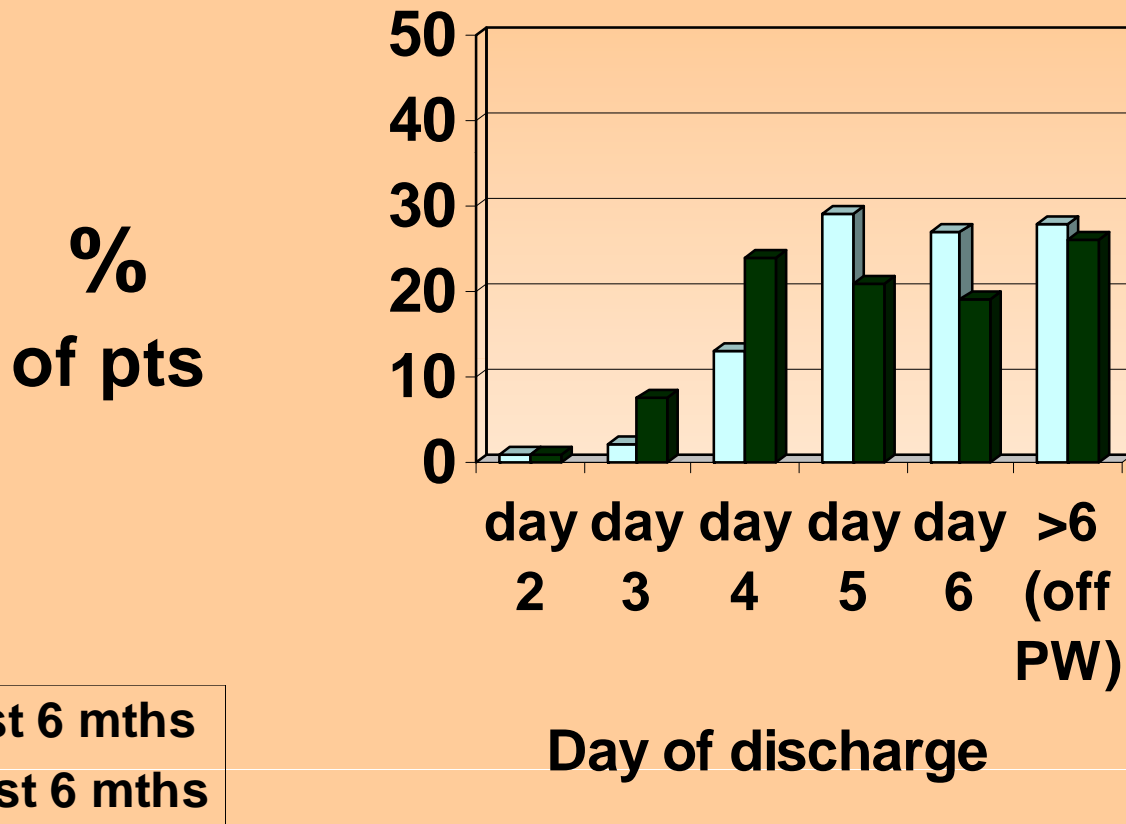
	Average LoS TKR
6mths (Jan 08 to June 08 inclusive) N = 90	6.19 days
6mths (Sept 08 to Feb 09 inclusive) N = 94	5.51 days

Discharge data (FHHS) TKR



1st 6 months of audit 72% of TKR went home on pathway
Last 6 months 74% of TKR went home on pathway

Discharge data (FHHS) TKR





6 week orthopaedic review

Do patients achieve a satisfactory result?

Orthopaedic surgeons at FHHS review TKR patients in the orthopaedic clinic approx 6 weeks after surgery.

Objectively a satisfactory result can be considered if the patient can achieve more than 90° knee flexion, not less than -5° knee extension, has a well healed wound and is medically stable.

Subjectively the patient should have well controlled pain and have an appropriate level of function.



6 week Orthopaedic review TKR

1st 6mths of notes audit (Jan 08 to June 08 inclusive)

N = 90 , Av age of pts 67.17ys

34 pts excluded

x 25 as they did not go home on pathway

x7 DNA or no review at 6 weeks

x2 no ROM recorded at 6 week review

Of the 56 patients who qualified for inclusion in this review,
10 patients not yet meeting satisfactory ROM criteria

x7 patients yet to achieve less than -5°

knee extension

x3 patients yet to achieve 90° knee flexion

82% (46pts) had achieved a satisfactory result



6 week Orthopaedic review TKR

Last 6mths of notes audit (Sept 08 to Feb 09 inclusive)

N = 94 , Av age of pts 67.19ys

30 pts excluded

x 25 as they did not go home on pathway

x2 DNA or no review at 6 weeks

x3 no ROM recorded at 6 week review

Of the 64 patients who qualified for inclusion in this review :

15 patients not yet meeting satisfactory ROM criteria

x12 patients yet to achieve less than -5° knee extension

x6 patients yet to achieve 90° knee flexion

78% (49pts) had achieved a satisfactory result



First 6 months of notes audit

6 week orthopaedic review

82% (46pts) achieving satisfactory result

12 week orthopaedic review

91% (51pts) achieving satisfactory result

5.3% not yet achieving -5 degrees ext (3pts)

1.7% required revision (1pt)

1.7% lost to follow up (1pt)

Last 6 months of notes audit

6 week orthopaedic review

78% (49pts) achieving satisfactory result

12 week orthopaedic review

90.6% (58pts) achieving satisfactory result

3.1% not yet achieving -5 degrees ext (2pts)

6.2% lost to follow up (4pts)



6 week Orthopaedic review TKR

1st 6mths (Jan 08 to June 08 inclusive)

N = 90

X1 infection

X2 Manipulation under anaesthetic (MUA) required

Last 6mths (Sept 08 to Feb 09 inclusive)

N = 94

X0 infections

X6 MUA required - **of these only one had gone home early without achieving the pre-existing ROM criteria**

(I.e ROM : >70 flexion, extension < -10 degrees
Quadriceps lag < 10 degrees)



Current FHHS discharge criteria:

FHHS RITH continue to accept patients with relaxed restrictions on quadriceps lag and ROM achieved prior to discharge from hospital.

RITH Physiotherapy staff provide increased occasions of service to these early discharge patients based on clinical assessment and reasoning.



Continued Quality Activity

As part of an **ongoing quality activity and monitoring process** patient outcomes will continue to be monitored over a further 6 month period to support the clinical decision to relax the physical discharge criteria for TKR patients at FHHS.



Physical Pathway criteria Delaying Discharge

1st 6mths (Jan 08 to June 08 inclusive)
N = 22pts

Patients who did not meet physical discharge criteria:

36% of these patients had not achieved 70° knee flexion

18% of these patients had not achieved less than -10°
knee extension

82% of these patients had not achieved a
quadriceps lag of less than 10°



Pain Management

Patients often don't achieve adequate quadriceps contraction due to pain inhibition (it hurts!)

RITH & HITH nurses and physiotherapists find that good pain control is essential if the patient is to comply with rehabilitation and achieve goals (particularly once discharged from hospital)



Red Flags

It is important to identify patients who may struggle with their rehabilitation prior to them leaving the hospital.

These patients are likely to be those who have been slower to achieve objective ROM & quads activation, or who have problems with pain control.

Increased RITH community physiotherapy can be arranged for these patients to ensure satisfactory outcomes.



Pain Management

Pharmacy and the Acute Pain Service at FHHS have developed a medication guide that specifically details **pain medication and management** for TJR patients on their discharge home.

A survey is being sent home with the guide to be filled in by patients and home visiting nurses & physiotherapists to assess the effectiveness of the guide.

Results of the survey are still pending.



Pain Management

FHHS is working on a program that will enable TJR patients to take responsibility for their pain management while still an in-patient of the hospital.

The intention is to have the patient better educated on pain management issues prior to discharge so they can better comply with rehabilitation.



Where to from here?

There would be benefits to looking at the amount of community intervention required for TJR patients to achieve satisfactory outcomes, particularly for those patients who have reduced hospital LoS.

This will be part of the future focus of quality activity study for RITH at FHHS.



In conclusion

Relaxing discharge criteria for TJR patients appeared to result in decreased LOS but caution must be used as patients who do not meet one or more discharge criteria can be at risk of a slower recovery.

Increased availability of community therapy can assist these patients achieve satisfactory outcomes.



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Delivering Quality and Value

Focus on: Primary Hip and Knee Replacement

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