

Enhanced Recovery

Mr. Zameer Shah

Outline

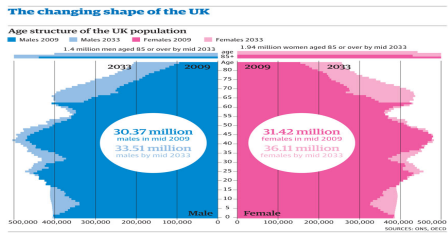
- Enhanced Recovery – What is it?
- History
- Literature Review
- Our Story so Far
- Our Pathway
- Early Results
- Future



21st Century Healthcare Challenges

- Increasing decision power to patients
- More competition between hospitals for patients
- Outcomes of hospitals will be more transparent (PROM's)
- High pressure on waiting list reduction





Demands

Internet / Patient Information

Ageing Population

Increased activity requirements

Changing lifestyle

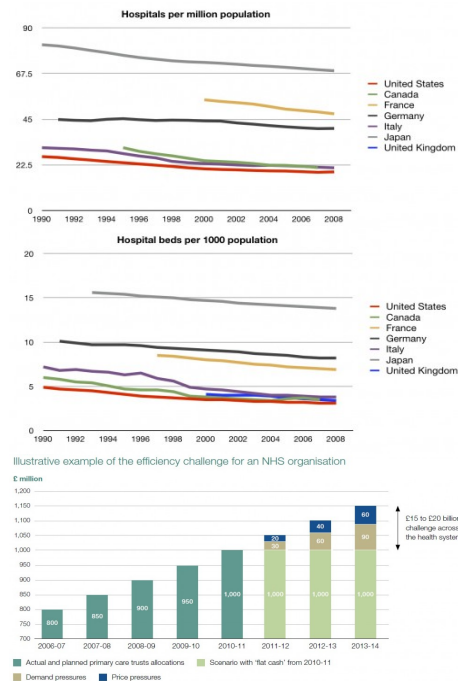
Pressures

Reduced personnel

Bed Numbers

Budget

Targets





2 wks

3 days

6 weeks

6 months



10 days



1-2 days

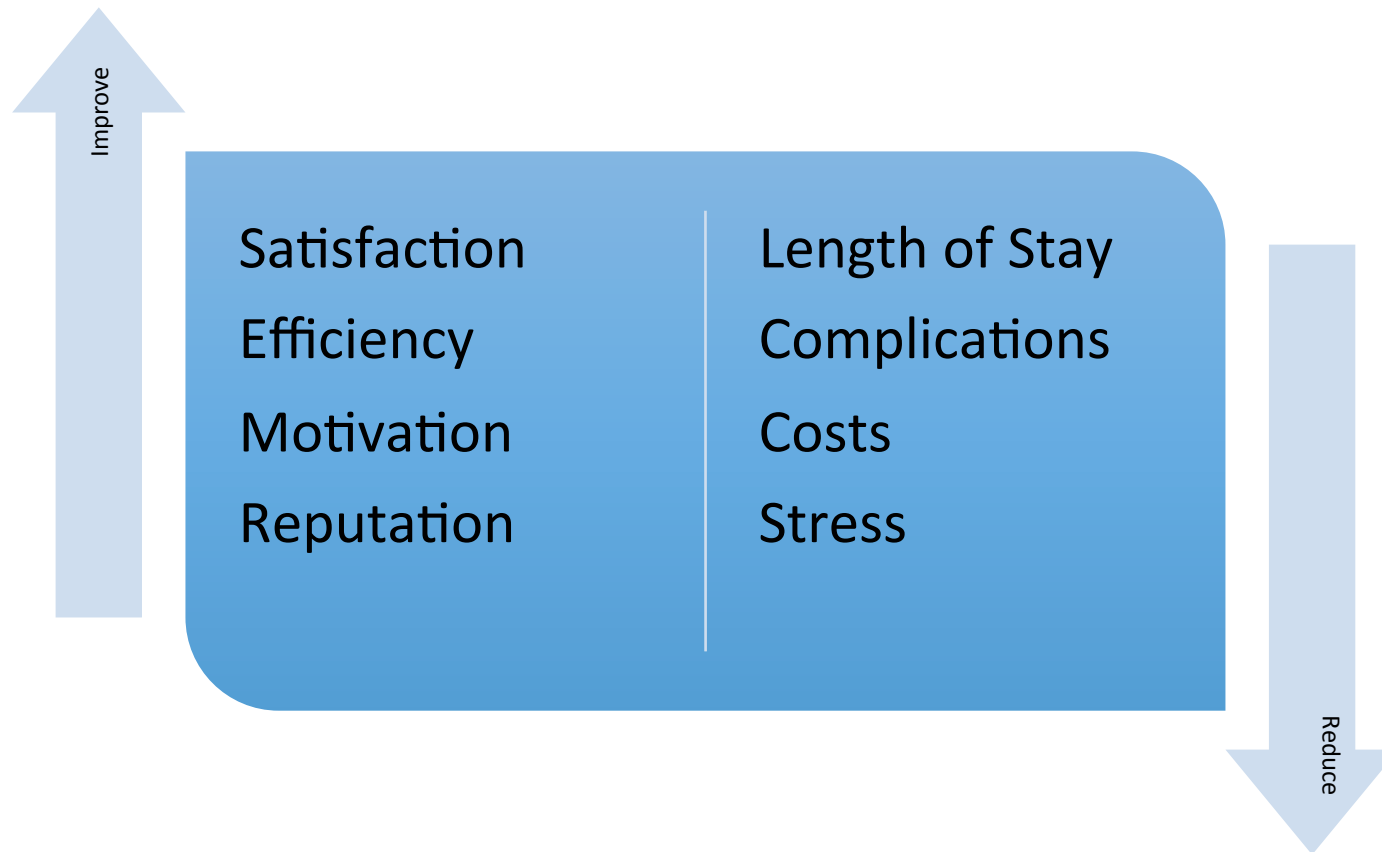


<4 wks



± 6 wks

What do we want to achieve?



Enhanced Recovery



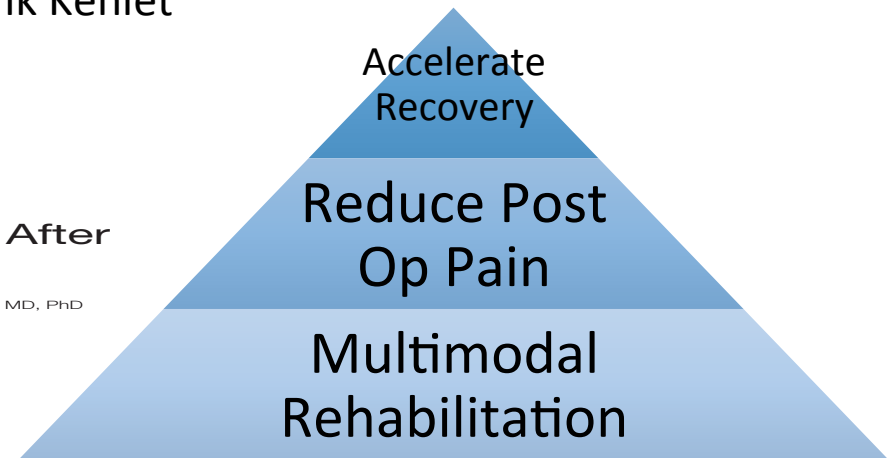
Prof. Henrik Kehlet

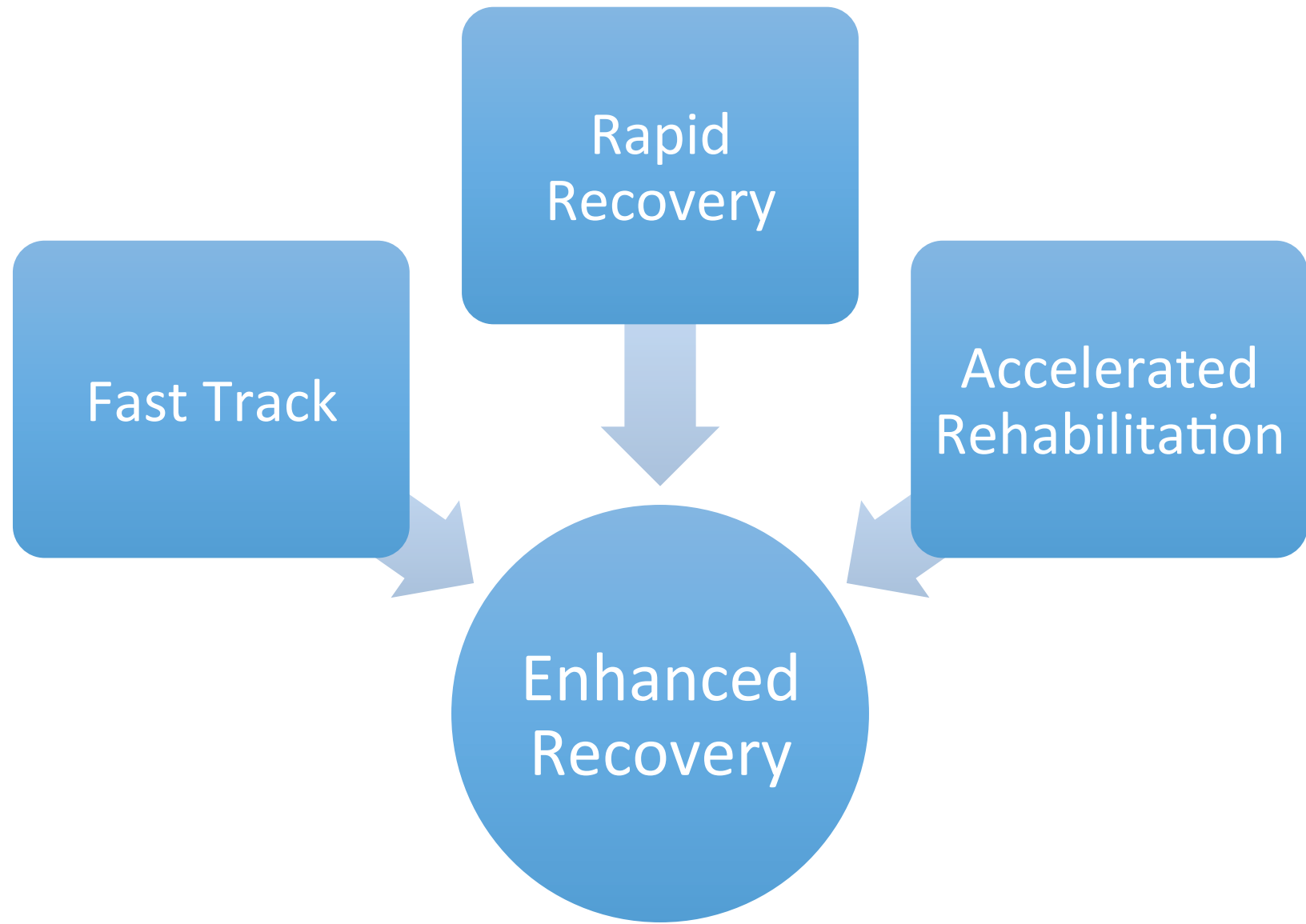
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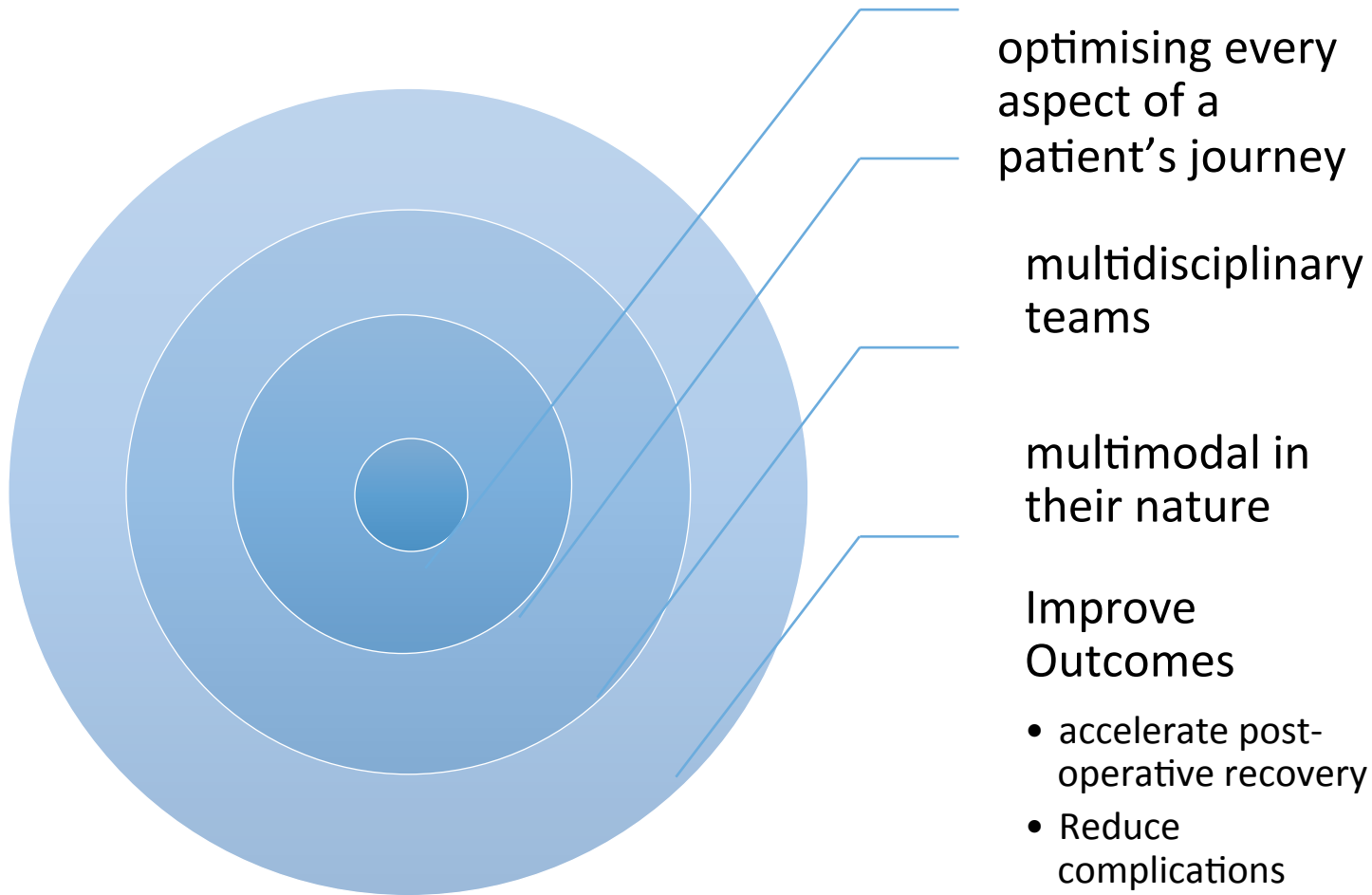
A Clinical Pathway to Accelerate Recovery After Colonic Resection

Linda Basse, MD, Dorthe Hjort Jakobsen, RN, Per Billesbølle, MD, Mads Werner, MD, PhD, and Henrik Kehlet, MD, PhD

From the Department of Surgical Gastroenterology and Anesthesiology, Hvidovre University Hospital, Denmark







Pre Operative

- Optimisation of health and comorbidities
- Management of expectations
- Education & Counselling
- Organisation of Discharge

Intra Operative

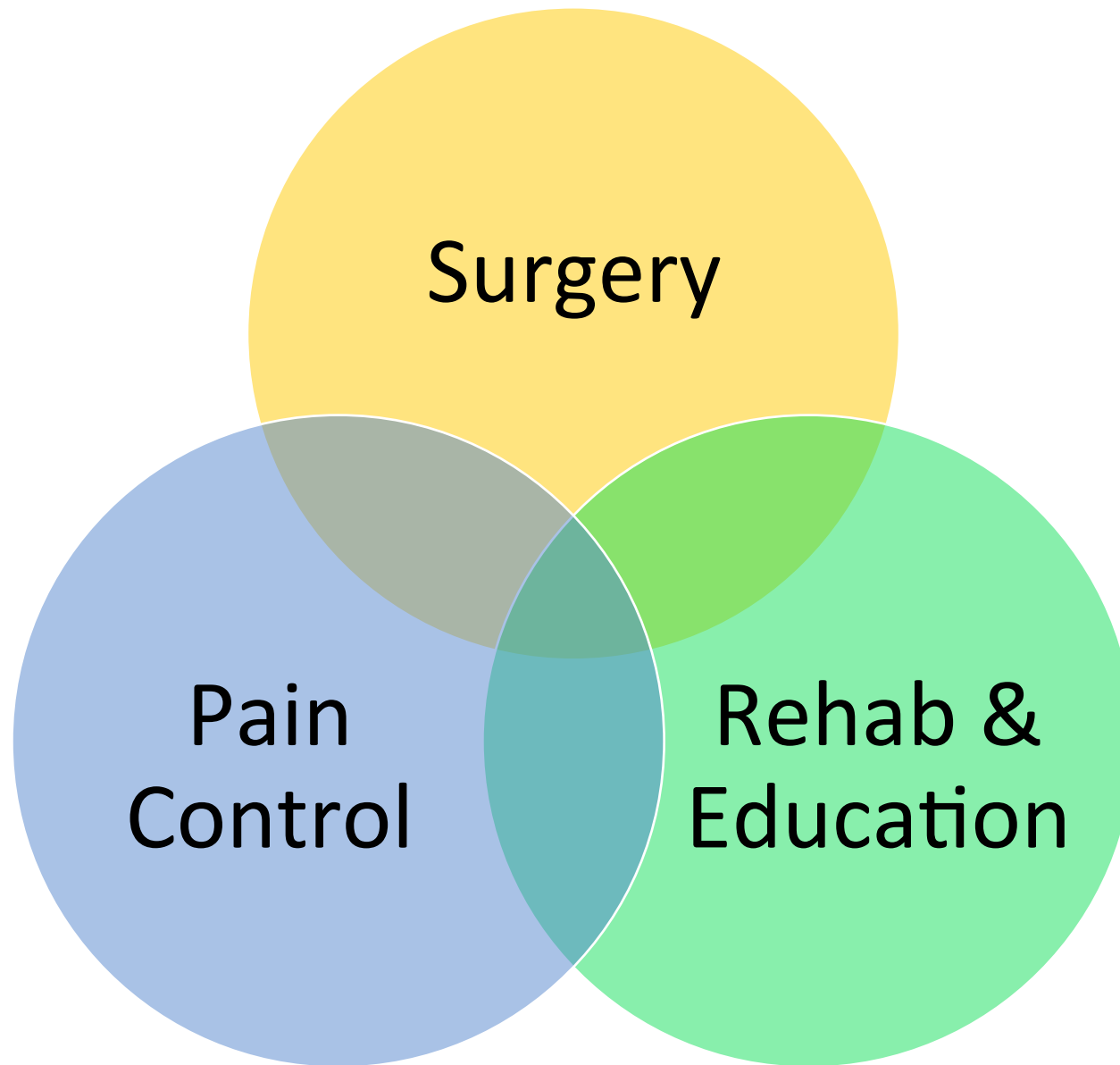
- Shortened Surgical Times
- Standardised Surgical techniques
- Optimised Anaesthesia
- Local Infiltration

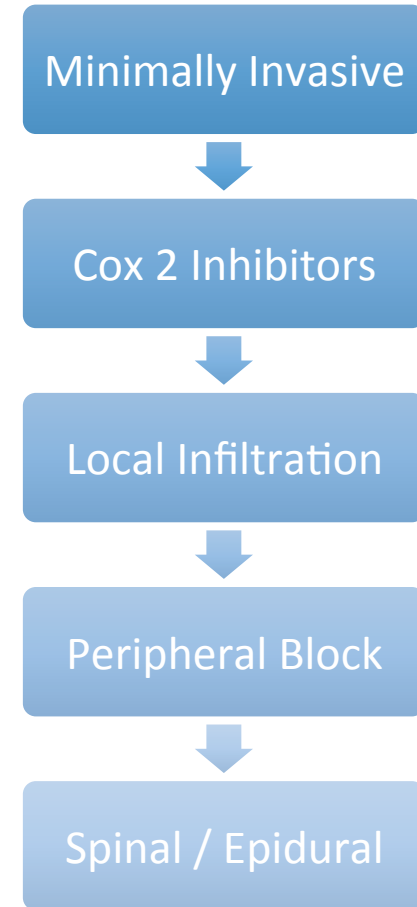
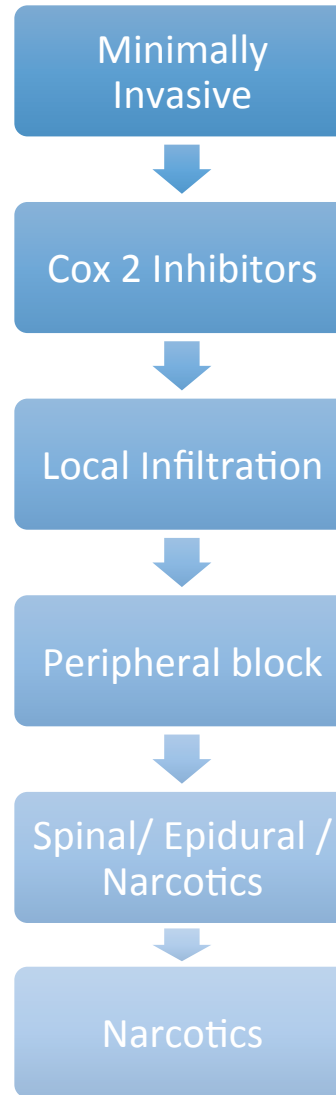
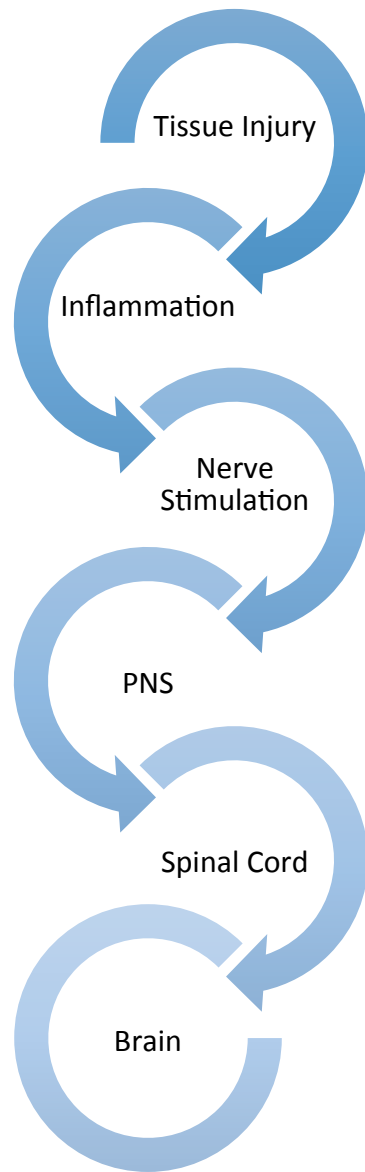
Post Operative

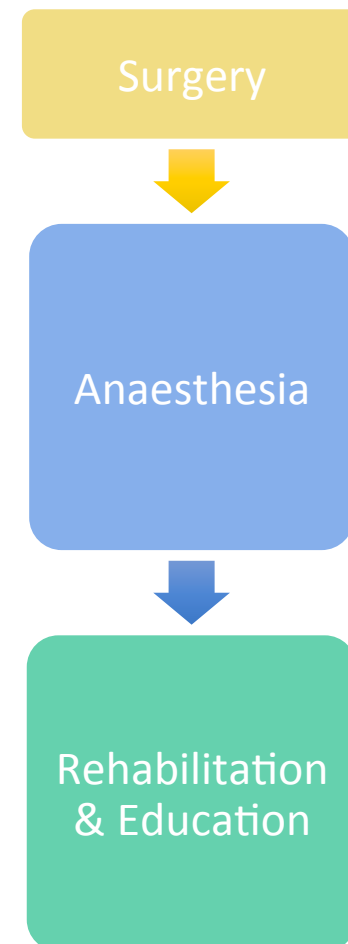
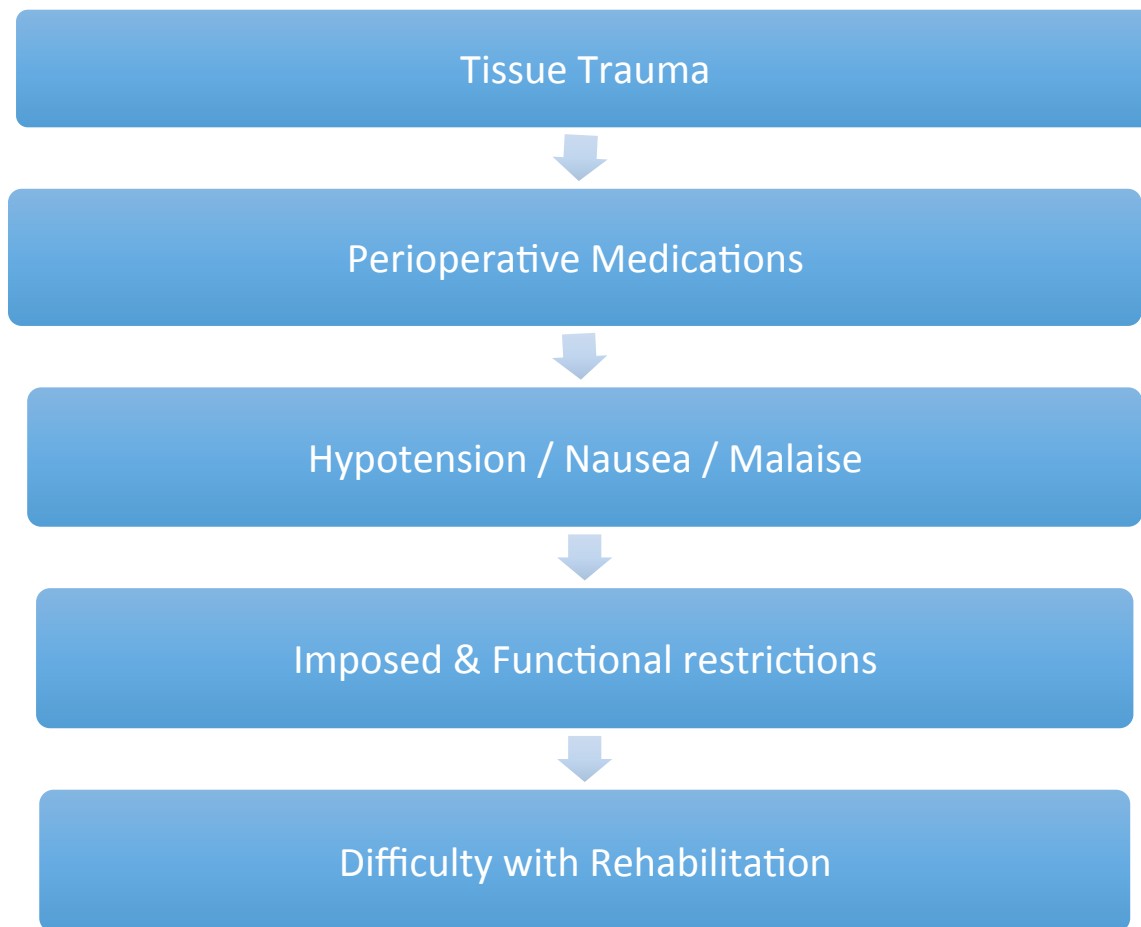
- Early Physiotherapy and Ambulation
- Effective Analgesia, avoidance of opioids
- Restoration of hydration and feeding
- Promotion of “wellness” model of care

Discharge

- Home
- Multidisciplinary team
- Clear instructions to rehab independently







If you want to make enemies, try to change something



Benchmark

- Day of Surgery admission
- Staggered admission
- Joint School
- Standardized pathways -
 - Admission
 - Surgical procedure
 - Anaesthesia
 - Rehabilitation

HOSPITAL
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**SPECIAL
SURGERY**



MAYO
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Institutet



AARHUS UNIVERSITY



What determines length of stay after total hip and knee arthroplasty? A nationwide study in Denmark

Henrik Husted · Hans Christian Hansen ·
Gitte Holm · Charlotte Bach-Dal · Kirsten Rud ·
Kristoffer Lande Andersen · Henrik Kehlet

Arch Orthop Trauma Surg (2013) 133:117–124
DOI 10.1007/s00402-012-1619-z

HIP ARTHROPLASTY

The use of enhanced recovery after surgery (ERAS) principles in Scottish orthopaedic units—an implementation and follow-up at 1 year, 2010–2011: a report from the Musculoskeletal Audit, Scotland

Nicholas B. Scott · David McDonald · Jane Campbell · Richard D. Smith ·
A. Kate Carey · Ian G. Johnston · Kate R. James · Steffen J. Breusch

An enhanced recovery programme for primary total knee arthroplasty in the United Kingdom — follow up at one year

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ABSTRACT

The concepts of Enhanced Recovery Programmes (ERP) are to reduce peri-operative morbidity whilst accelerating patient's rehabilitation resulting in a shortened hospital stay following primary joint arthroplasty. These programmes should include all patients undergoing surgery and should not be selective. We report a consecutive series of 1081 primary total knee arthroplasties undergoing an enhanced recovery programme with a one year follow up period. A comparative cohort of 735 patients from immediately prior to the enhanced recovery programme implementation was also reviewed. The median day of discharge home was reduced from post-operative day six to day four ($p < 0.001$) for the ERP group. Post-operative urinary catheterisation (35% vs. 6.9%) and blood transfusion (3.7% vs. 0.6%) rates were significantly reduced ($p < 0.001$). Within the ERP group median pain scores (0 = no pain, 10 = maximal pain) on mobilisation were three throughout hospital stay with 95% of patients ambulating within 24 h. No statistical difference was found in post-operative thrombotic events ($p = 0.35$ and 0.5), infection ($p = 0.86$), mortality rates ($p = 0.8$) and Oxford Knee Scores ($p = 0.99$) at follow up. This multidisciplinary approach provided satisfactory post-operative analgesia allowing early safe ambulation and expedited discharge to home with no detriment to continuing rehabilitation, infection or complication rates at one year.

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ORTHOPAEDIC SURGERY

Predictive factors influencing fast track rehabilitation following primary total hip and knee arthroplasty

Michael Schneider · Ikuro Kawahara · Gail Ballantyne · Christine McAuley ·
Karen MacGregor · Ruth Garvie · Alistair McKenzie · Deborah MacDonald ·
Steffen J. Breusch

Effects of clinical pathways in the joint replacement: a meta-analysis

A Barbieri¹, K Vanhaecht², P Van Herck², W Sermeus², F Faggiano¹,
S Marchisio³ and M Panella^{* 1,4}

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Cost-Effectiveness of Accelerated Perioperative Care and Rehabilitation After Total Hip and Knee Arthroplasty

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By Kristian Larsen, MPH, PhD, Torben B. Hansen, PhD, Per B. Thomsen, MD, Terkel Christiansen, MSc, Kristian Barbieri et al.; licensee BioMed Central Ltd.

Investigation performed at Regional Hospital Holstebro, Holstebro, Denmark

Acta Orthopaedica 2008; 79 (2): 149–159

149

Accelerated perioperative care and rehabilitation intervention for hip and knee replacement is effective

A randomized clinical trial involving 87 patients with 3 months of follow-up

Kristian Larsen¹, Ole Gade Sørensen¹, Torben B Hansen¹, Per B Thomsen¹, and
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Correspondence KL: fek2004@msn.com
Submitted 06-11-02. Accepted 07-03-30

**Multidisciplinary rehabilitation programmes following joint replacement at the hip and knee in chronic arthropathy
(Review)**

Khan F, Ng L, Gonzalez S, Hale T, Turner-Stokes L



“ IMPROVE OUTCOMES ”

Enhanced recovery program for hip and knee replacement reduces death rate

A study of 4,500 consecutive primary hip and knee replacements

Ajay Malviya, Kate Martin, Ian Harper, Scott D Muller, Kevin P Emmerson, Paul F Partington, and Mike R Reed

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Correspondence: amalviya@nhs.net
Submitted 10-06-17. Accepted 11-03-22

Reduced medium-term mortality following primary total hip and knee arthroplasty with an enhanced recovery program

A study of 4,500 consecutive procedures

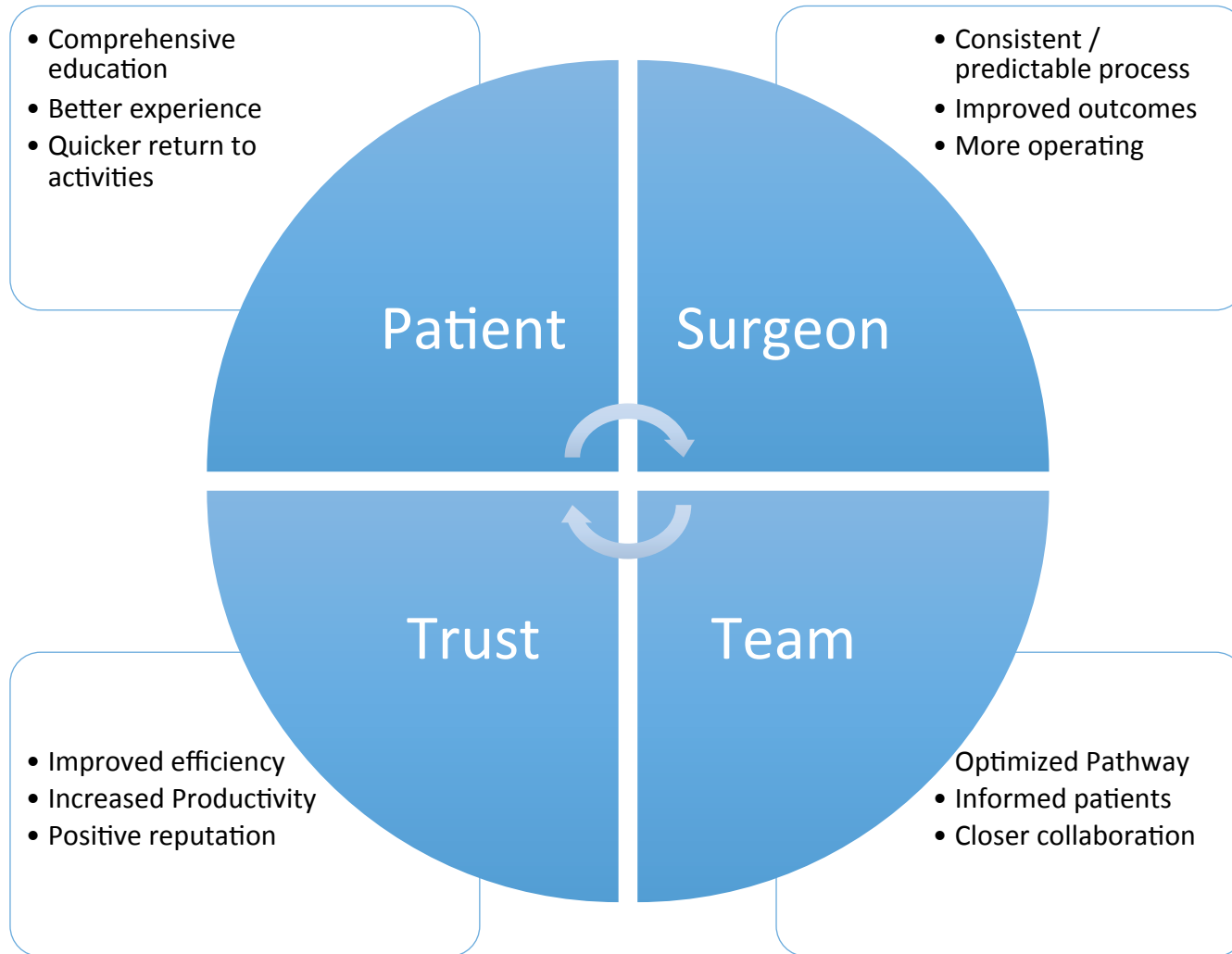
Terence Savaridas¹, Ignacio Serrano-Pedraza², Sameer K Khan³, Kate Martin³, Ajay Malviya³, and Mike R Reed³

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Submitted 12-04-19. Accepted 12-11-23

“..substantial reduction in death rate, reduced length of stay, and reduced transfusion requirements..”

“..reduction in mortality rate at 2 years following elective lower-limb hip and knee arthroplasty..”

Benefits



Our pathway

- Building on work already done (AA + MG)
- Mid 2012 consolidate
- Develop our own pathway
- Partnership
- Unique
- Care for Today



A wide range of services to help and support our patients

Orthopaedic team features



Criteria based patient pathway management

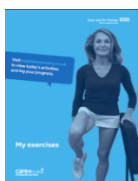


Integrated patient information



Guys Orthopaedic Outreach Team

Patient features



Updated patient information



Caregiver involvement



Open channel with hospital



Post-op info & support

Process steps



I. PREPARATION

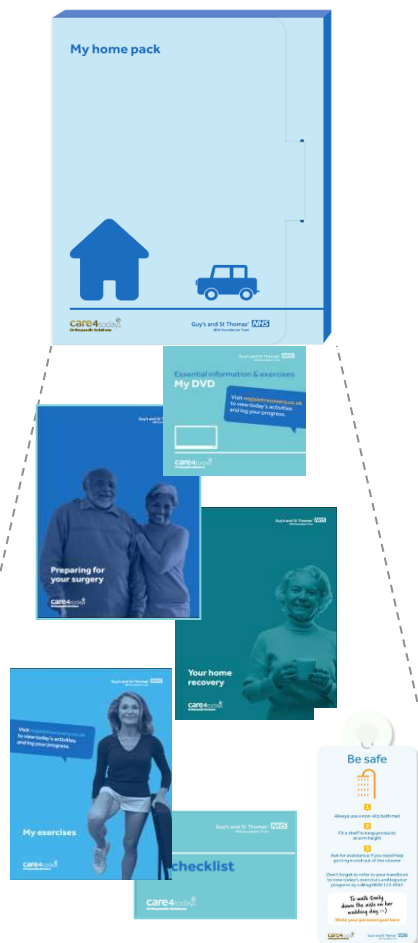
II. HOSPITALISATION

III. HOME CARE

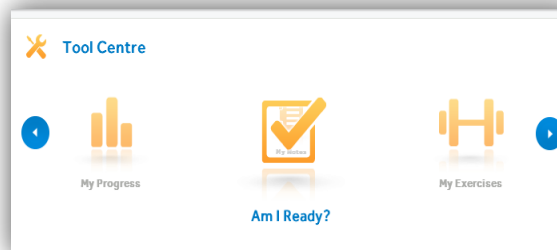
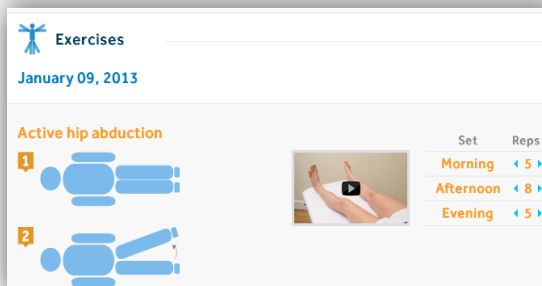
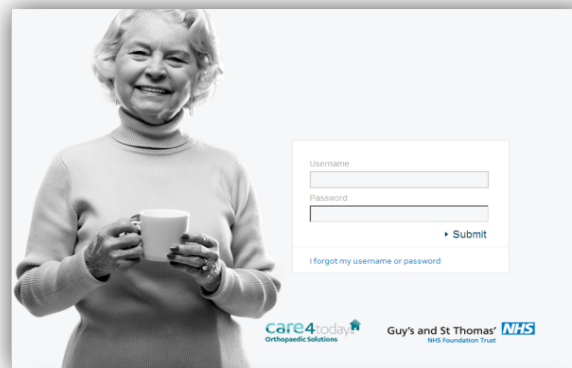
To start June 2013

- Partnership between J&J and GSTT
- All total hip and knee replacement patients
- Day 2 (hip) or 3 (knee) standard discharge
- 1,000 patients over 12 months, 400 going through full program
- Trial objectives are to demonstrate that the project:
 - Is feasible

Patient Information Package



Patient Information Website



Guy's Orthopaedic Outreach Team



To help guide patients through the process

Patient information & interactive website

Pre & post surgery patient information



Hospital IT support systems

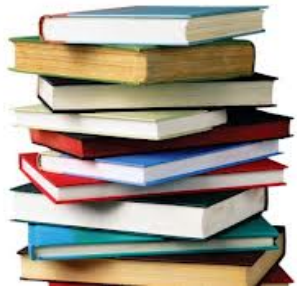
Pathway-driven management system



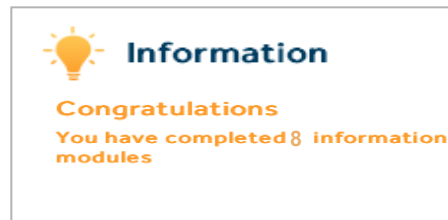
IPad home support tool



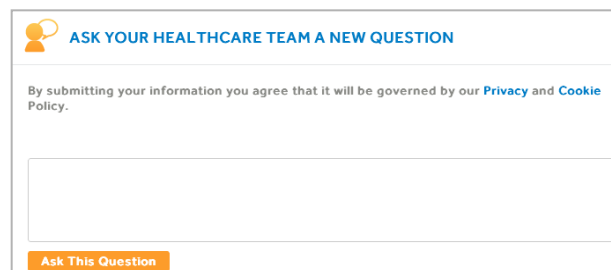
How will this benefit our patients?



Easily accessible from home



Helps to track progress



Continuous contact with the healthcare team

Changes to the pathway

- All patients will receive a patient information pack once they are added to the waiting list for hip or knee replacement surgery
- Pre assessment OT has been relocated to the orthopaedic department to make the process easier for our patients
- In OT per assessment our patients home will be assessed and all requirements for rapid discharge will be identified and addressed prior to admission
- In OT pre assessment our patients will be registered to CPRM and given a demonstration and log in details for PEM
- OT and CNS meet to discuss each patient to confirm if either GOOT or NON GOOT
- Hip and Knee 'Prehab' has been re-branded to Hip and Knee 'School' and is now compulsory for all THR and TKR patients entering the pathway. We have increased both from fortnightly to weekly
- Implementation of an extended scope multidisciplinary team - GOOT
- Orthopaedic therapies work 7 days a week to support this pathway change
- Patients that have outreach support will be able to contact the GOOT team up to 6 weeks post discharge

Ensuring Quality

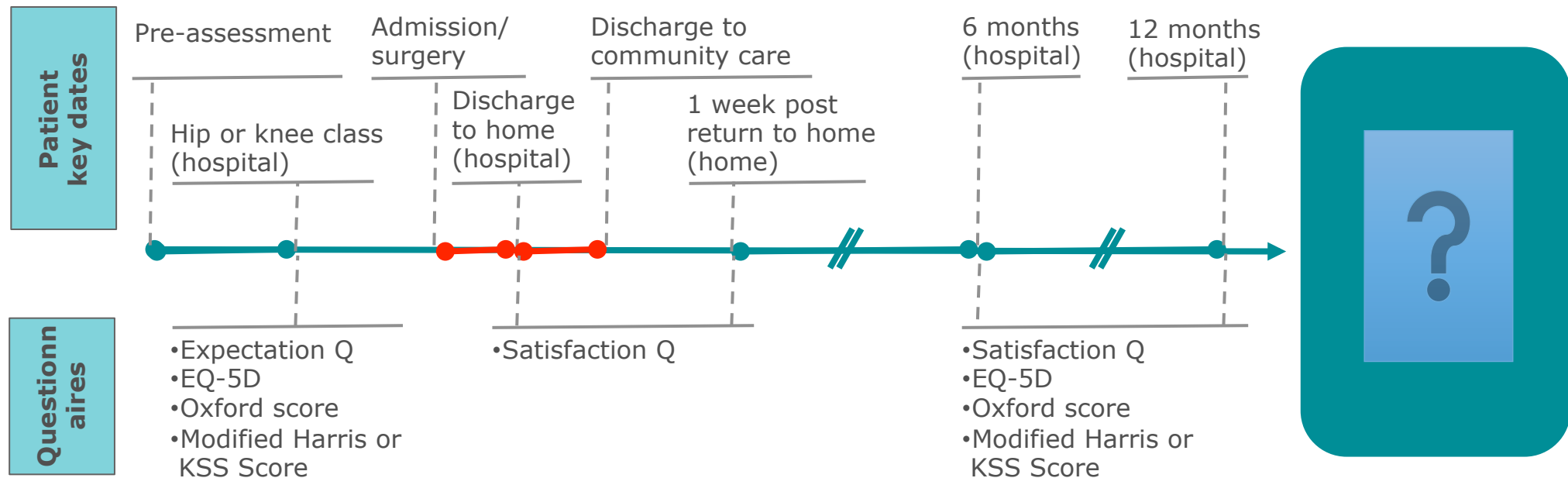
Evaluation

- Clinical outcomes
- Patient reported quality of life
- Length of stay
- Re-admission and complication rates
- Patient satisfaction
- Staff satisfaction

Number of patients involved

- Control group of 120 patients, 50 knees and 70 hips, collected prior to the full rollout
- Study group of 120 patients, 50 knees and 70 hips, collected post rollout, once processes are stabilised and common practice

Overview of the protocol



Key benefits of the project



Improved patient experience

- Patient information
- Outreach team support
- Caregiver involvement

Improved Outcomes

- Less readmissions
- Faster recovery at home

Improved GSTT daily operations

- Increased capacity
- Increased referrals
- Increased efficiency

Phase 1

1st enrolled patient on 21st January

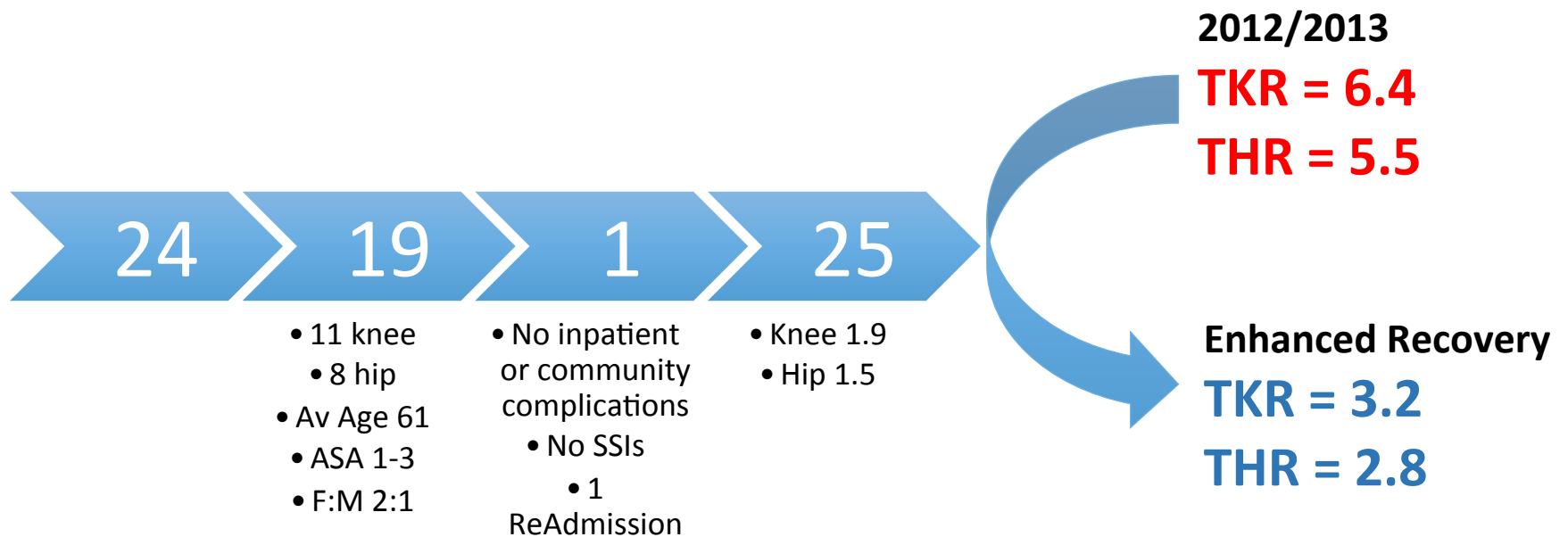
Full rollout 3rd June



Phase 1 finished on 13th May

Phase 1 objectives:

- Confirm pathway, technology and patient materials work
- Confirm overall impact on patients is successful
- To collect service evaluation pre-Care4today data
- Ensure all staff are aware of new processes and the GOOT team



“The **information pack** helped me to understand the hospital process, I did not feel so nervous about my operation”

“I Felt supported”

“Really good service”

“The **website** helped me to track my exercises and keep in contact with the **outreach team**”

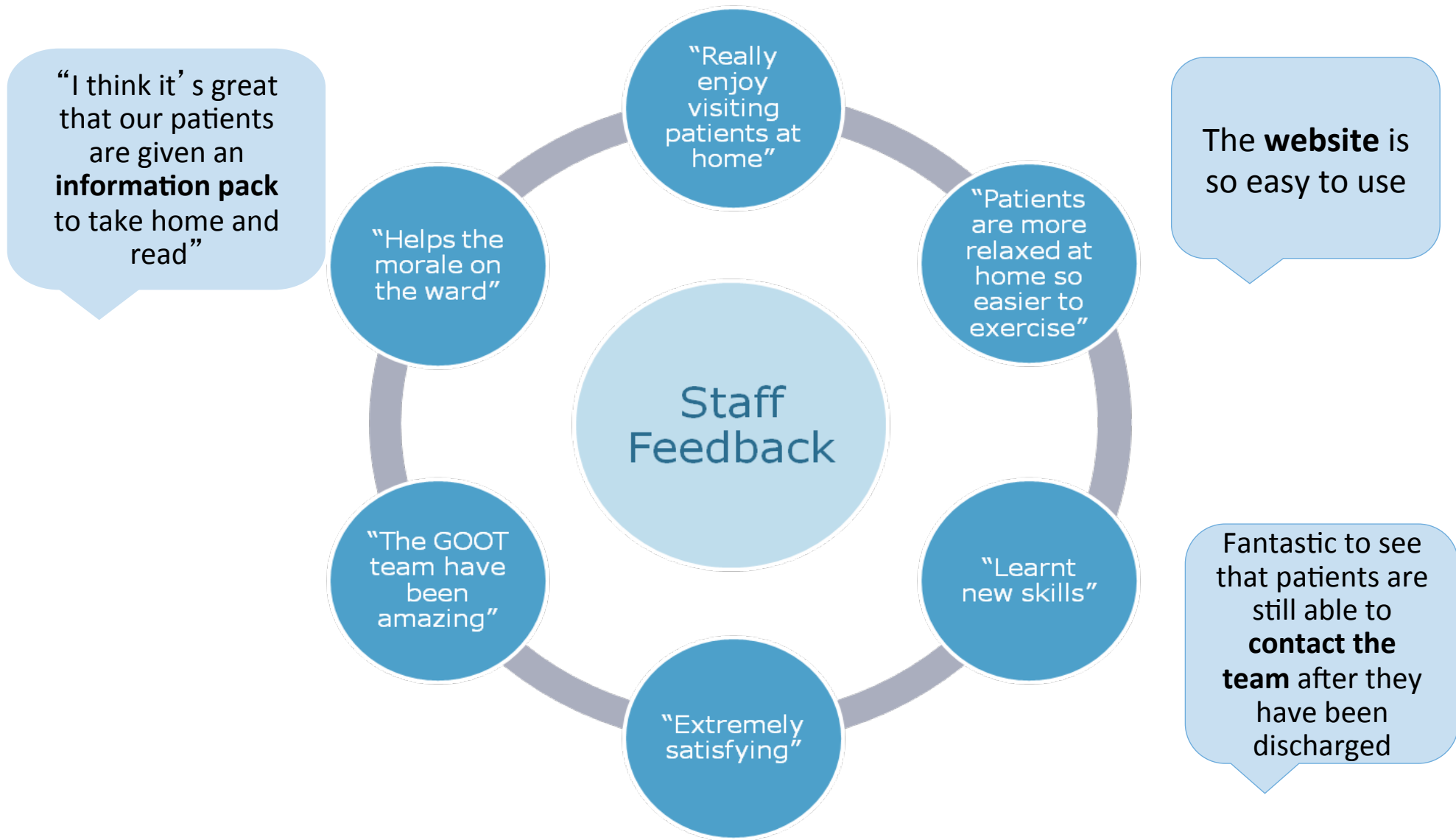
“Easy to use website”

“Kept in touch”

Patient Feedback

“Knee school gave me the opportunity to ask questions”

“Easy to understand exercises”

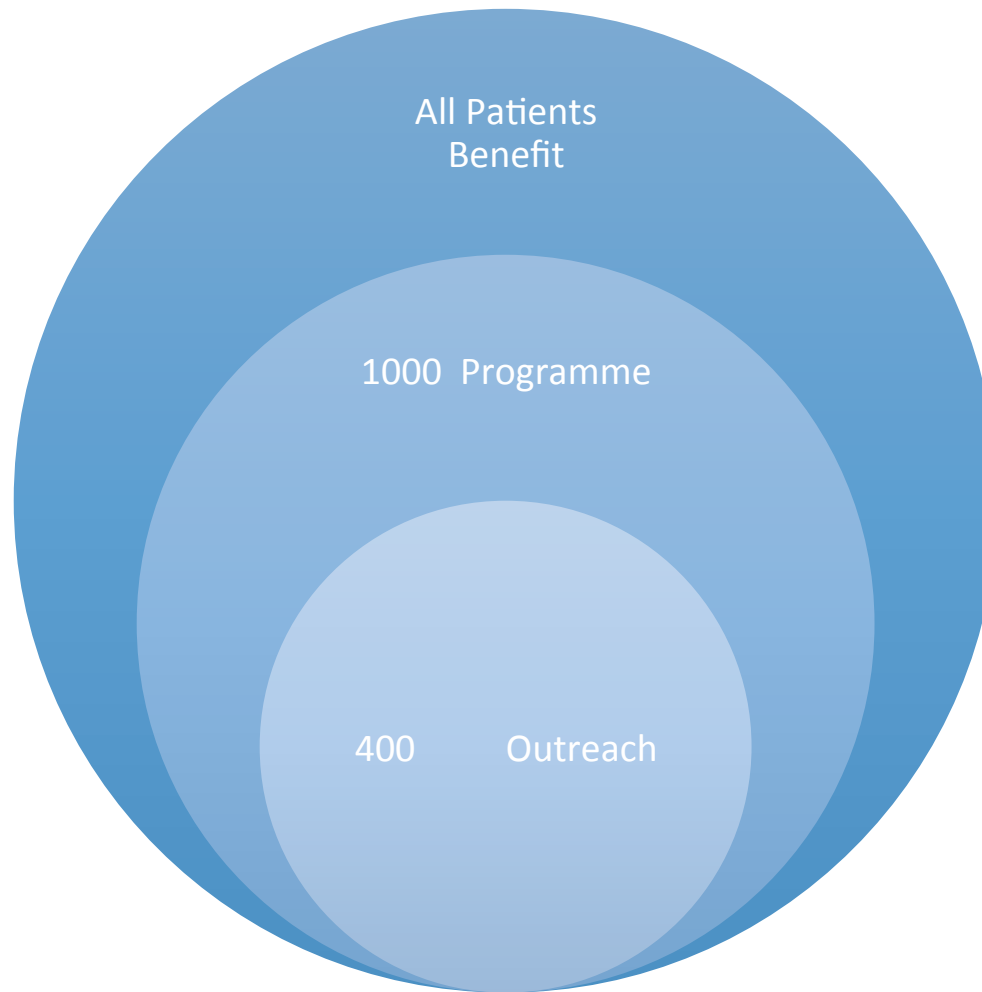


Patient website usage

- Patients logging into the website at least once: **50%**
- Top 3 content sections of the website:
 - **Homepage**
 - **Exercises**
 - **Q&A**

- Development of a highly skilled interdisciplinary outreach team
- No increase in orthopaedic related community-based complications
- Local pathways tried and tested
- Excellent patient feedback
- Excellent staff feedback

June 2013







‘It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change’

