Storyboard title – Enhanced Recovery after Surgery (ERAS) in Hip and Knee Replacement surgery – The Good, the Bad and the Ugly

Brief Outline of Context

In 2011 the All Wales 1000 Lives Collaborative for ERAS launched the improvement work for hip and knee replacement patients. The ERAS programme is a patient centred method of optimising the effect of surgery by improving patient experience and clinical outcomes. It is a National programme which is focused on delivering the highest quality and safest healthcare for the people of Wales.

To help deliver on this work an MDT approach was a priority and a team was set up in Prince Philip Hospital in June 2011. The elective ward is a mixed caseload area consisting of 28 beds.

Brief outline of Problem

ERAS was first described by Prof Henrik Kehlet he described it as a multimodal process to minimise the effect that surgery has (physiological and psychological) upon the body such as organ dysfunction, nausea and vomiting pain and immobility.

In the UK in 2011 more than 150,000 Total Hip/Knee Replacements were entered onto the National Joint Registry (NJR). The surgical procedure will be the same all over the world with minimal changes but, due to differences in policies and guidelines at each site, there are sometimes vast differences in the care provided as well as variation in what happens before and after surgery.

Multimodal approaches can aid early rehabilitation and discharge of patients following primary joint replacement. This not only reduces the economic burden of joint replacement by reducing length of stay, but also helps in reduction of early complications.

Assessment of Problem and analysis of its causes

A baseline audit was undertaken by the MDT to identify current practice in the care of orthopaedic patients which identified key target areas

- Removal of urinary catheter/drains
- Adherence to fasting guidelines
- Deep Vein Thrombosis (DVT) prophylaxis
- Nerve blocks active day 1/ analgesia regime
- Length of stay
- Time to weight bearing
- Patient/staff information and education

**Causes**
- Pre-admission clinic - generic information, education not always consistent dependent on experience of nurse
- Patients not always encouraged to take diet late at night pre-surgery.
- Catheters sometimes in for 48hours.
- Varied DVT prophylaxis for various durations
- No patients mobilised day of surgery, sometimes mobility delayed Day 1 as block still effective
- Variation in prescription of post-operative analgesia

**Proposed changes**
- Removal of Urinary Catheters at 6am Day 1
- Reduction in opioid usage/ Patient Controlled Analgesia (PCA), Nerve blocks
- Commence Local Infiltration Analgesia (LIA)
- Post-op regime analgesia & DVT prophylaxis
- Adherence to fasting guidelines
- Oral fluids in Recovery
- Bed-chair day of surgery/ Mobilise 4x daily from day 1
- Discharge planning from Pre-admission assessment
- ERAS Programme Nursing documentation
- Patient information booklets in both Welsh and English
- ERAS information posters in both Welsh and English to be displayed in clinics/ward areas
- Inform patients at pre-admission assessment of ERAS principles

**Strategy for Change**


Teaching sessions for nurses and Pre-admission clinics to go through the nursing and patient documentation. Pre-admission clinic designed letters to send to GP’s with more relevant information on optimisation criteria for patients, nutrition screening for all patients, education for the patients, describing their hospital journey, expectations and discharge so that they become partners in their care.

An ‘ERAS DAY’ was held to increase awareness of the development of the programme. Presentations were put together by various disciplines to ensure everyone was aware of the changes that were being made outside of their own departments. Examples of the documentation being produced for patients as well
as the nursing documentation under development were displayed for comments. This also provided an opportunity to educate, support and encourage staff regarding the programme.

**Measurement of Improvement**

Nursing, Physio and Anaesthetic/pain team continually collected and analysed data. The amended nursing documentation allowed the audit data to be collected and any issues with completion or non-compliance with ERAS principles could be discussed weekly and fed back to the nursing team. This also allowed any issues that the nurses had with the design of the documentation to be amended/adapted to encourage compliance with completion. The audit data collected included:

- Pain scores
- Nausea and vomiting
- Prescription/compliance analgesia regime/DVT regime
- Day 0 mobility – Reasons for not mobilising/time to weight bearing
- Prolonged Effects of nerve block
- Length of stay
- Reasons for delayed discharge
- Adherence to fasting guidelines
- Readmissions/Complications
- Discharge planning
- Day of Surgery Admission

All of the data was collated and discussed at the monthly meetings to the team in order to continuously improve the service.

**Effects of change**

The introduction of the ERAS programme has brought in consistency of care to the patients within the orthopaedic department. Although not all of our surgeons are using the LIA technique ALL patients follow the ERAS programme it is an everyday pathway for ALL patients without exception.

We studied the effect of LIA in 200 patients undergoing hip and knee replacements. In patients undergoing THR the average LOS in the LIA group was 5.2 days while the non-LIA group was 6.9 days. In the LIA group there was less wound oozing and less need for transfusions. Despite the local analgesia the pain scores were similar in both groups, as was the overall analgesia need and nausea and vomiting.

In TKR patients the average LOS was 5.7 (LIA) versus 7.2 (Non-LIA). In the LIA group there was a slightly lower incidence of wound ooze and a lower transfusion need, better pain scores for the first 12 hours followed by poorer pain scores for the next 36 hours, (majority of non-LIA group on PCA). There was a higher need for analgesia in the non-LIA group during the stay.

Since the commencement of ERAS audit has shown:

- 51% of THR’s met their EDD (previously 30%).
- 94% of THR’s mobilised day of surgery met their EDD
- 35% of THR delayed discharges could have been avoided
42% of TKR’s met their EDD (previously 30%)
62% of TKR mobilised on the day of surgery met their EDD
30% of TKR delayed discharges could have been avoided

Quality and Safety have improved

• Shorter LOS
• Reduced readmissions/ complications
• Higher patient/ staff satisfaction
• Improved governance/performance monitoring

Lessons Learnt

By following the ERAS principles it has promoted multidisciplinary working. There were times when it was very disheartening and progress was slow, but if we change nothing, nothing will change. The TEAM approach was the focus of the group and, at times when there was disharmony we tried to focus on the

TEAM = **Together**
**Everyone**
**Achieves**
**More**

*Message to Others*

Keep going you will get there in the end, it is a long process and change can happen.