

A teachable moment: delivering perioperative medicine in integrated care systems



Foreword

I am delighted to be able to introduce this report by the Royal College of Anaesthetists, on the opportunities for delivering **perioperative medicine** to support the aims of **integrated care systems (ICSs)** across the country.

Anaesthetists are the largest single specialty of hospital doctors working in the NHS and the collective contribution they make is integral to the ability of the health service to offer patients an excellent standard of surgical care. Every anaesthetist will have a high degree of clinical skill, technical ability and pharmacological knowledge as a core member of every team providing what is often live-saving treatment.

Ensuring a patient is in the best possible condition for their operation, receives high quality care during surgery and is supported through to a full recovery should not be seen as three separate aims. Instead, every patient's journey should be along a single, coordinated pathway of care, in which the right services and staff are all involved. This is the central insight that shapes the perioperative approach.

A number of the award-winning perioperative programmes being implemented across the NHS are featured in this report. There are examples of initiatives that are cutting postoperative complication rates by 50%, reducing the length of an individual hospital stay by a number of days, or helping patients return to full or even improved levels of fitness after major treatment.

The Long Term Plan for the NHS provides an ambitious vision of healthcare in which the patient is at the centre of decisions about their own care. The plan places a focus on prevention and personal responsibility, guided by the principle that prevention is better than cure. While we hope that this approach helps people to live healthier lives and therefore avoid the need for surgery, we nevertheless know that demand for surgical services from a growing and ageing population will remain high. And when an operation is necessary, preparation can still be just as patient centred.

To support this goal, perioperative medicine programmes are introducing approaches such as 'prehabilitation' before surgery, in which every patient for whom it is clinically appropriate, receives a programme of care to optimise their condition before their operation.

As the title of this report alludes to, surgery can be a 'teachable moment' when an individual is more receptive to advice about their health. The perioperative period provides an opportunity to begin a positive change, such as stopping smoking, losing weight or reducing alcohol intake, all of which will reduce the chance of needing further hospital treatment.

By utilising the opportunities offered by the integration of services within the ICS model and embracing shared decision-making between healthcare professionals and their patients, a perioperative approach to care can improve health outcomes, help patients to get home from hospital sooner and reduces the risk of readmissions that put people back in hospital when it could have been avoided.

The most expensive, ineffective and inefficient care is poor care. An optimised perioperative approach is good for patients, good for the NHS and good for the wider economy as well.



I hope that readers of this report will – as I do – identify perioperative medicine as 'pragmatic medicine'; underpinned by common sense insights which do not require re-inventing the wheel. This report demonstrates the compatibility between new models of integrated care and the delivery of perioperative medicine.

The Long Term Plan sets out our ambition for ICSs to be established across the whole country by April 2021. I would encourage all system leaders currently within an ICS, and all of those beginning to plan the development in their area, to read this report and consider how a perioperative approach could improve patient care in their area.

Professor Stephen H Powis
National Medical Director, NHS England

A teachable moment – delivering perioperative medicine in integrated care systems

This report has been developed by the Royal College of Anaesthetists ('the College') as a result of our fundamental belief that optimised perioperative medicine can create positive change within the NHS: delivering improved outcomes for patients undergoing major surgery in addition to financial savings.

It identifies best practice and a series of recommendations to embed this within the NHS, as well as highlighting a series of pilot projects that can be scaled up once their impact has been fully assessed.

The report was commissioned in May 2018 at a time when existing sustainability and transformation partnerships (STPs) were beginning to evolve into ICSs. The College was keen to assess the extent to which improvements in perioperative medicine, or opportunities for its role in transforming outcomes, were acknowledged or featured in the emerging thinking.

With the ambition to establish ICSs across the whole of England by April 2021, our approach was to conduct a detailed analysis of the first ten that were in the public domain at the time the project was commissioned.

These were South Yorkshire and Bassetlaw, Bedfordshire, Luton and Milton Keynes, Frimley, Dorset, Nottingham, Surrey Heartlands, Greater Manchester, Buckinghamshire, Berkshire and Oxfordshire, and Lancashire and South Cumbria.

This research identified a number of emerging priorities within the systems, with themes of relevance to advancing perioperative medicine. To validate these findings, a series of telephone interviews with individual ICS leads and a survey of members of the RCoA's Perioperative Medicine Leads and Clinical Directors Networks were also conducted.



'By moving to a shared decision-making pathway, our modelling suggested that 20% fewer people would opt to not have knee or hip replacement surgery as they would understand the risks and benefits of major surgery, in addition to the necessary information and confidence to make positive lifestyle changes. However, our data now shows that 80 percent of patients are now choosing not to have surgery. Not only do they feel in control of their condition, but we also saved £2.6 million over two years.'

**– Shared Decision-Making: Hip and Knee Osteoarthritis Pathway,
Joe Smart, Transformation Lead, Berkshire West**



In the report we have identified these themes, structured around 'best practice' within the ten ICSs that were analysed, alongside a description of how perioperative medicine could be further embedded within individual priority pathways per ICS.

We envisage that this document will:

- serve as a valuable starting point for existing ICSs to identify how best practice in perioperative medicine can be further embedded in their locality
- serve as a potential blueprint for those areas that are yet to fully develop their ICS

The external environment has also evolved positively in the period during which the report has been developed, with the announcement of significant additional funds into the NHS, and the associated development and publication of the Long Term Plan for the NHS. The confluence of the development of LTP with that of the ICSs – which will cover the entire country by April 2021 – makes the publication of this report particularly timely.

Taken as a whole, we have identified a series of practical steps that can be taken to embed perioperative medicine at a local level, which can catalyse the impact of the additional investment in the NHS that the Long Term Plan will deliver.

The case for perioperative medicine and its potential impact



'Perioperative physicians have the potential to make patient flow more effective and safer.'

– Professor Des Breen, Medical Director, South Yorkshire and Bassetlaw Integrated Care System



Anaesthetists are the largest single speciality of hospital doctors in the NHS, with two thirds of inpatients receiving care from an anaesthetist typically before, during and after a surgical procedure; what is known as the 'perioperative period'.

It is because of this extent of patient engagement, members of the anaesthetic team are uniquely positioned to engage with patients to support changes to their lifestyle before surgery, known as 'prehabilitation', as well as supporting recovery after a surgical procedure, or rehabilitation.

Taken together, the 'prehab to rehab' model is at the heart of perioperative medicine, providing a seamless journey for patients from the moment that surgery is contemplated, through to full recovery.

If optimised, perioperative medicine can reduce the amount of time that a patient must spend in hospital prior to surgery, reduce the likelihood of avoidable readmission, and reduce short term postoperative pain.

The period around an operation is also considered a 'teachable moment', where perioperative interventions such as smoking cessation, weight management, or psychological support services can lead to sustained lifestyle changes.

By getting this right through the development of ICSs, and against the backdrop of the development of the Long Term Plan for the NHS, the size of the potential prize is considerable, both in terms of patient experience and containment of avoidable costs.

Alignment with the Long Term Plan for the NHS

The information within this report and the wider research and literature in the area of perioperative medicine suggest that its aims and objectives closely align with the national priorities set-out in the Long Term Plan for the NHS.



In cancer:

- The Berkshire West ICS identifies the provision of **Cancer Recovery Packages** as a priority, in conjunction with holistic needs assessment and a 'teachable moment' programme to encourage lifestyle changes in patients with negative **cancer** diagnoses.
- The Bedfordshire, Luton and Milton Keynes ICS identifies an ambition to improve **cancer outcomes across the system**, including prevention, waiting times, and earlier diagnosis.
- In Dorset there is an aim to establish a **single acute network for cancer services** as part of establishing 'one acute network.'

75% of Perioperative Medicine Leads and National Clinical Directors surveyed believe that cancer care provides one of the greatest opportunities to embed perioperative medicine.



In cardiovascular disease:

- The Frimley ICS is looking to reduce clinical variation across pathways for **hypertension and stroke** to improve outcomes and maximise value for individuals across the population.
- In Greater Manchester, the provision of smoking cessation interventions in **cardiovascular patients** has been identified as a priority.
- The Bedfordshire, Luton and Milton Keynes ICS identifies a broad aim to improve **cardiovascular prevention** across the region.

The Greater Manchester Enhanced Recovery After Surgery+ (ERAS+) pilot in Manchester Royal Infirmary cut the average length of postoperative hospital stays by three days and saved the Trust over £500,000 a year



In mental health:

- Significant opportunities exist to address the psychological impact of surgery through the optimisation of the 'prehab to rehab' model. These include the opportunity to manage complex surgical pain following hip and knee replacement surgery through cognitive behavioural therapy, as identified by the Acute Pain Team at the Royal Bournemouth Hospital who were shortlisted in the British Medical Journal's 2018 Awards.



In children's services:

- The Bedfordshire, Luton and Milton Keynes ICS targets improved service provision and management of bronchiolitis pathways for **children**.
- For South Yorkshire and Bassetlaw, an identified priority is to develop standardised care pathways and specialist sites to improve outcomes for **children under-going unplanned operations**, at night, at weekends, or taking overnight stays.
- Dorset is seeking to transform maternity and paediatric services that are delivered within acute hospitals and the community.

As well as these specifically targeted interventions, the report identifies a multitude of cross-cutting initiatives that present opportunities to embed perioperative medicine to deliver against the broader priorities of the Long Term Plan for the NHS, including addressing health inequalities and against other public health targets, including reduced avoidable hospital readmissions following surgery.

Advancing the vision

A new Long Term Plan, underpinned by new funding and an ambition to accelerate implementation of new care models, represents a critical juncture in the development of the NHS.

This report captures some of the most exciting examples of perioperative medicine being devised and delivered at a the time it was prepared. However, the report does not catalogue the full range of initiatives being undertaken across the NHS (and internationally). Instead the College considers this report to be a starting point for encouraging the wider integration of perioperative pathways wherever possible.

The College is committed to continuing to work with patient groups, professional organisations and NHS leaders to promote the adoption of safe, effective and efficient perioperative medicine.

The pull out analyses of individual ICSs contained within this document highlight specific pilot pathways and best practice examples of approaches that are having a positive impact within their individual health economies, and which can be easily adopted and scaled up in other localities.

As well as sharing best practice and encouraging its wider uptake, we are committed to better understanding the impact that this has, both on health and economic outcomes, to further strengthen the case for more widespread uptake.

It will also assist the College over time in building a comprehensive picture of approaches to perioperative medicine across the ICSs.

Following the publication of the Long Term Plan, the College will also work alongside NHS England to ensure that the optimisation of perioperative medicine is positioned as a practical delivery mechanism for the priorities set out in the plan, including the development of national guidance to ICSs on initiatives for inclusion in future revision of their plans.



Perioperative medicine – exemplar pathway and self-assessment

Perioperative medicine is not about re-inventing the wheel. It is about using the skills and resources that exist within the health and social care system to provide an optimised pathway for surgical patients. Learning from best practice is a vital part of quality improvement and this section is about the opportunities for improvements in your current pathway and helping to make that case to managers, commissioners and colleagues.

Why make the change?

Case Study

Referral

Failure to assess fitness for referral creates delays in the pathway and impacts patient flow

Pre-admission assessment

20% of diabetic patients have an HbA1C level above the recommended threshold for elective surgery

Preparation and booking

Each £1 invested in exercise and activity interventions can deliver a return on investment of up to £23 in quality of life, reduced NHS use and other gains

The Operation

Recovery

Patients consistently report a preference to be in their own surroundings to recover, rather than requiring a hospital stay

Discharge

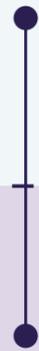
Among older patients, the majority of readmissions after discharge occurred for a different reason to the original admission

Postoperative support

Transitional services to manage postoperative pain are key to addressing opioid mismanagement

Respective interventions might take place at a different point on the pathway depending on whether it is delivered within the secondary care setting or as part of a transitional service, which may include community or residential care providers.

Referral

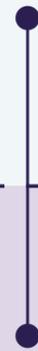


West Suffolk NHS Foundation Trust (Suffolk)

Integrated staff team identify patients with hip fracture as soon as they attend emergency departments.

See page 15

Pre-admission assessment

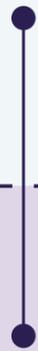


Royal Bournemouth Hospital (Wessex)

Surgery only takes place if patients attend a pre-assessment clinic.

See page 29

Preparation and booking



WesFit (Wessex)

Pre-surgery exercise sessions provided to cancer patients to improve recovery post-surgery

See page 23



Recovery



ERAS+ (Greater Manchester)

Recovery package adapted to returning home, establishing a good level of exercise and nutrition in the post-hospital period.

See page 31

Discharge



POPS (Guy's and St Thomas', London)

The multidisciplinary team (MDT) liaise with local services to set up reablement care and rehabilitation

See page 17

Postoperative support



ERAS (North Midlands)

Specialist recovery nurses phone home on a daily basis after surgery.

See page 27

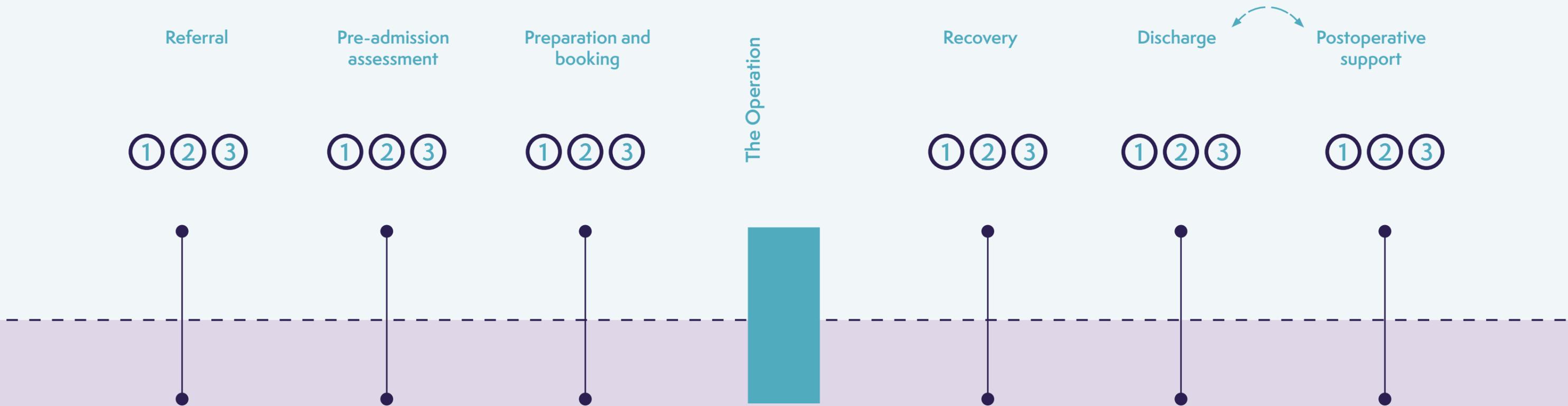
Perioperative medicine – service assessment

Use this page to self-assess an existing surgical pathway offered at your hospital/trust (or in the wider area, eg ICS). You can use the case studies on the previous page to consider questions about your existing patient pathway: Are your referral processes ensuring that you can effectively identify pre-existing conditions? Could you improve procedural compliance and/or develop standard protocols in your hospital to ensure the fidelity of the intervention?

This self-assessment is designed to be a quality improvement exercise, it is not about highlighting problems and it might be that some issues cannot be fully resolved immediately. The process of completing this assessment might help to formulate a realistic plan for incremental improvement.

Use '✓' to indicate your self-assessment indicator for each stage of the pathway:

- 1 = Optimised component of care pathway
- 2 = Good practice, but further optimisation possible
- 3 = Opportunity to change pathway/improve integration of care





Overview of Frimley Health and Care System

This page gives an overview of the Frimley Health and Care System, its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

Frimley's aim is to serve and work in partnership with the Frimley footprint population of 750,000 people, and work collaboratively with local system leaders to provide an integrated health and social care system fit for the future. One of their key priorities is to improve well-being and increase prevention, self-care and early detection.

Three ICS priorities with opportunities to integrate perioperative medicine

Identified within Frimley's plan are three priorities with potential to simply integrate perioperative medicine and reduce avoidable harm and complications:

- 1 to develop multidisciplinary team coordination of complex care planning and frailty, as part of integrated care decision-making hubs
- 2 to provide support to quit smoking for smokers undergoing elective surgery and ensure people have skills and support to take responsibility for their own health and well-being
- 3 to reduce clinical variation across pathways for hypertension and stroke to improve outcomes and maximise value for individuals across the population.



'The NHS has talked about integrated care for a long time but the way the system was set up made it hard to work collaboratively. Now we have a chance to make serious progress and we have to do it. For me, this is unfinished business.'

– Sir Andrew Morris, Lead of Frimley Health and Care System



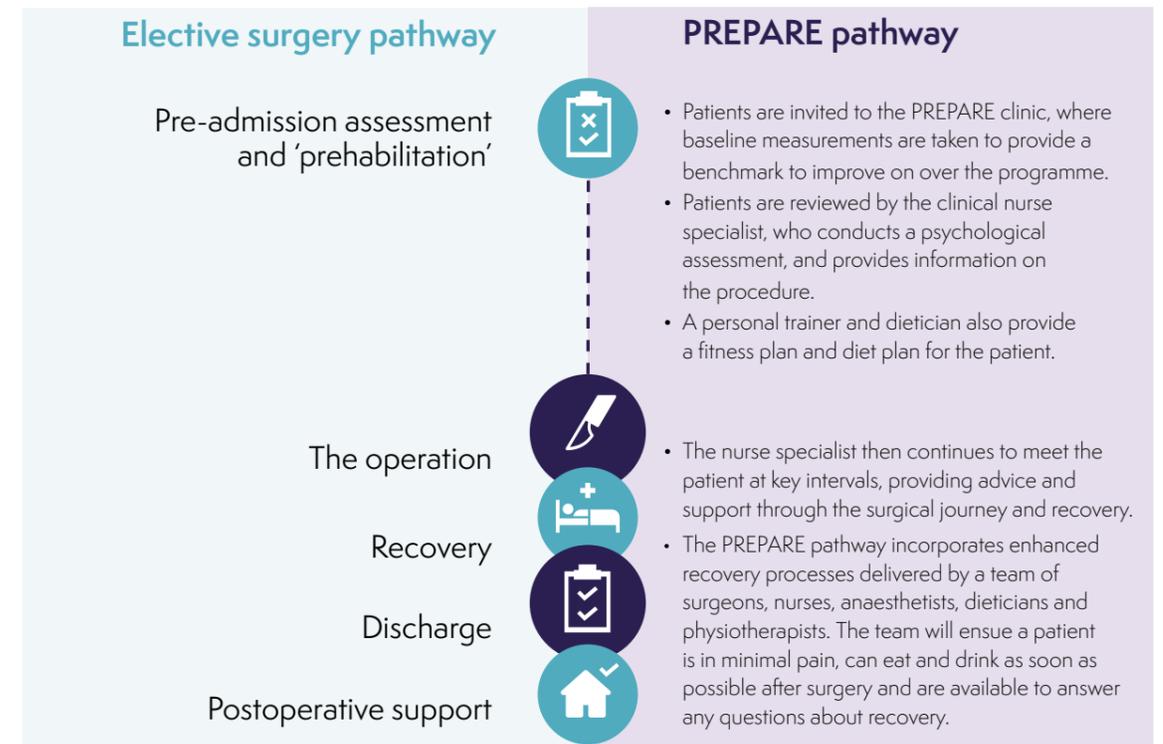
Overview of Frimley Health and Care System

This page offers practical advice on how to integrate POM in the elective surgery pathways across Frimley Health and Care System

Embedding perioperative best practice in your priority pathway

The diagram below sets out how a perioperative approach could be embedded into the elective surgery pathway to meet Frimley's priority: **To develop MDT coordination of complex care planning and frailty, as part of integrated care decision-making hubs**

The pathway on the right is drawn from the **PREPARE for surgery programme at Imperial College Healthcare NHS Trust**. This programme highlights the cost-effectiveness of delivering comprehensive prehabilitation services in advance of surgery by helping 'train' patients for surgery, based on individual need. The PREPARE team look at factors before and after a patient's procedure, including physical activity, diet, psychological well-being and medication management.



Outcome

- Analysis of the PREPARE programme calculates that the cost of the core delivery team is £20,900 per year while identifying an estimated cost saving of £265,000 per year, based on a reduced rate and severity of complications and length of (hospital) stay.
- The programme has led to reduced postoperative complications since implementation. The Clavien-Dindo score of 2 or >2, reduced from 80% to 35% based on patients enrolled in the first two years.

Recommendations

- The programme can be adapted to meet national targets, shortening the four-week programme to a two-week schedule for those patients that need to undergo surgery as soon as possible (for example, urological and lung cancer patients).



Surrey Heartlands Health and Care Partnership

This page gives an overview of the Surrey Heartlands Integrated Care System (ICS), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

Surrey Heartlands ICS partners embraced devolution from April 2018, meaning they now have more local control through management of a devolved budget.

The population covered is around 888,000, with 0.7% living in the most deprived areas of England. The area is predominately urban, with three emergency department sites around 30 minutes apart. Approximately 13% of the population lives rurally. The system's priorities include generational change, the wider determinants of health, devolution, workforce and national priorities.

Three ICS priorities with opportunities to integrate perioperative medicine

Identified within Surrey Heartland's plan are three priorities with potential to simply integrate perioperative medicine and reduce avoidable harm and complications:

1 perioperative management of patients with hip fractures

Musculoskeletal services account for the largest treatment pathway spends in Surrey Heartlands in addition to having higher than the national average number of hip fractures involving the neck of the femur bone

- 2 recruitment of diabetes specialist nurses to see patients before hospital admission
- 3 prevention of the increase in obesity through system-wide behaviour change approaches.



'Older patients admitted with hip fractures are some of the frailest and sickest patients in the hospital requiring a multidisciplinary approach... Care for hip fracture patients is a surrogate marker on how hospitals deal with frail, older patients.'

– Riemen AH, Hutchison JD. The multidisciplinary management of hip fractures in older patients. Orthop Trauma 2016;30(2):117–122.



Surrey Heartlands Health and Care Partnership

This page offers practical advice on how to embed perioperative medicine in Surrey Heartlands Health and Care Partnership

Embedding perioperative best practice in your priority pathway

The diagram below sets out how perioperative medicine could be embedded into the hip fracture surgery pathway to meet Surrey Heartland's priority: **Perioperative management of patients with hip fractures.** The pathway on the right is drawn from West Suffolk Hospital, which has been rated top in England, Wales and Northern Ireland for its hip fracture care.



Outcome

- West Suffolk NHS Foundation Trust achieved 94.3% against the National Hip Fracture Database best practice criteria in 2017, against an average of 57.1%. Records show that in December 2017, despite the Trust caring for the highest number of patients since the database began, staff kept patients' overall average length of stay at the lowest it has been since the database began at 16.1 days.

Recommendations

- On admission patients should be placed on an acute orthogeriatric or orthopaedic ward and started on a formal hip fracture pathway.
- Unless medically contraindicated, patients should be offered a physiotherapy session and mobilisation on the day after surgery.



Healthier Lancashire and South Cumbria

This page gives an overview of the Lancashire and South Cumbria Integrated Care System (ICS), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

Healthier Lancashire and South Cumbria is a diverse region of 1.7 million people across a range of geographies and with differing local challenges. Some people experience ill health from an early age and die younger, especially where there are higher levels of deprivation.



‘For most of our area, the quality of life for people with long-term health conditions is worse than the average across England... Many people with long-term health conditions are frail and elderly patients. When their care isn’t joined up around their needs, they often end up in hospital beds because they can’t be treated closer to their homes.’

– A Healthier Lancashire and South Cumbria (2017),
Case for Change



The system has a strong focus on improving health and well-being outcomes, utilising new technologies, making the best use of resources and extending and improving community and primary care services.

Three ICS priorities with opportunities to integrate perioperative medicine

Identified within Lancashire and South Cumbria’s plan are three priorities with potential to simply integrate perioperative medicine and reduce avoidable harm and complications:

- 1 **joining up care in and out of hospital** for people with complex conditions
- 2 improving **minor surgery closer to home**
- 3 a specialised surgery in **centres of excellence**.



‘We need to heal fractures between services and tear down those administrative, financial, philosophical and practical barriers to the kinds of services our patients want us to deliver.’

– Sir Bruce Keogh, (2017), National Medical Director (2007–2017)
and Member of the Faculty of the Evidence Based Perioperative
Medicine Collaborative

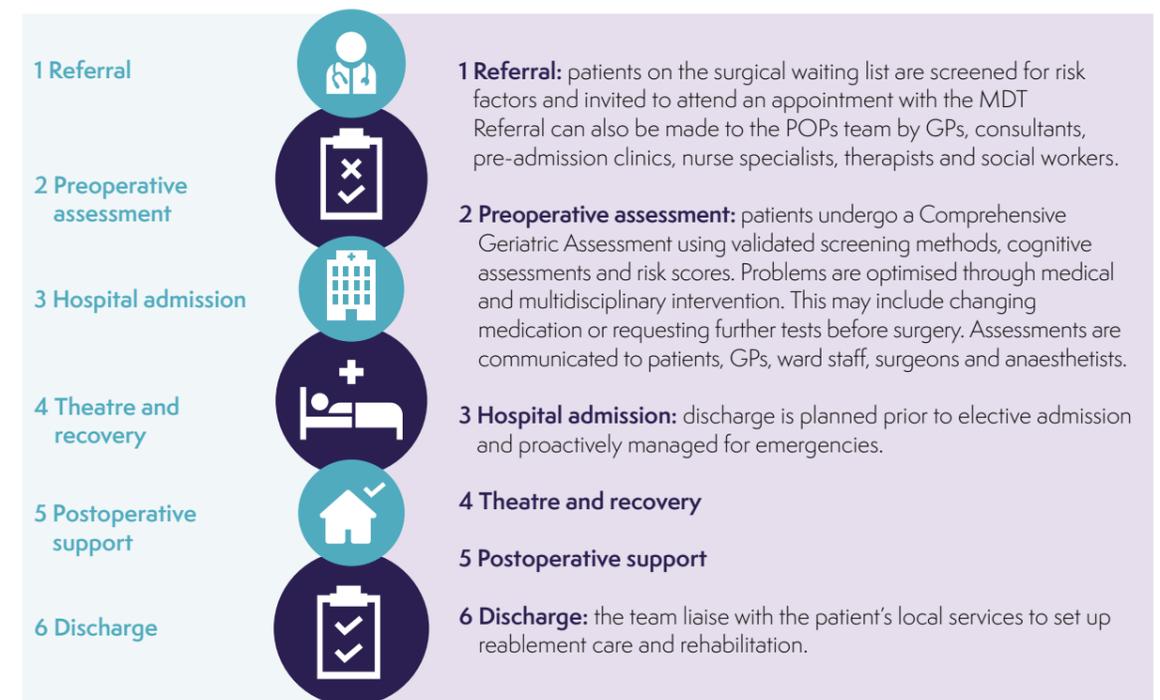


Healthier Lancashire and South Cumbria

This page offers practical advice on how to embed perioperative medicine in Lancashire and South Cumbria

Embedding perioperative best practice in your priority pathway

The diagram below sets out how perioperative medicine could be embedded into a pathway for older, complex patients undergoing elective and emergency surgery, supporting Lancashire and South Cumbria’s priority: joining up care in and out of hospital for people with complex conditions. The pathway below is drawn from Guy’s and St Thomas’ award-winning Proactive care of Older People going to have Surgery (POPS) service, whereby the team has embedded specialist geriatric and medical services within the surgical pathway.



Outcome

- Despite higher comorbidities in the POPS cohort, they had reduced medical complications: pneumonia 20% vs. 4%, delirium 19% vs. 6%, delayed mobilisation 28% vs. 9%, and **length of stay reduced by 4.5 days**.

Recommendations

- The clinic is comprised of a consultant geriatrician, nurse specialist for older people, occupational therapist, physiotherapist, and NHS social worker.
- The MDT sees each patient before their operation, during their hospital admission and will monitor them when you go home.
- Suggestions for ongoing management of chronic conditions are made to GPs, such as dementia investigation.



Greater Manchester Health and Social Care Partnership

This page gives an overview of the Greater Manchester Health and Social Care Partnership (GMHSCP), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

In 2015, the 37 NHS organisations and local authorities in Greater Manchester signed a devolution agreement with the government to take charge of health and social care spending and decisions in the city region. Covering a population of 2.8 million, the system includes ten hospitals with emergency departments and six urgent care centres and incorporates three new care model vanguards.

The partners believe that reform of health and social care is vital to improve the area's productivity by helping more people to become fit for work, find jobs and stay in work for longer.

Three ICS priorities with opportunities to integrate perioperative medicine

Identified within GMHSCP's plan are three priorities with potential to simply integrate perioperative medicine and reduce avoidable harm and complications:

1 abdominal surgery for high-risk patients

'Quality Improvement is everyone's business, including the 'unsung heroes' behind the scenes. Through NELA, theatre teams have been empowered to lead and support changes, and this has been key in improving the care we can provide for our patients'

– NELA teams of St James's University Hospital, Leeds, University College London Hospital, Queen Elizabeth Hospital, Birmingham and Maidstone & Tunbridge Wells Hospital

2 perioperative glycaemic management of patients undergoing bariatric surgery

3 smoking cessation interventions in cardiovascular patients.

“
'John Moore has done remarkable work [with ERAS+ in Manchester]...to promote perioperative medicine.'
 – Dr Richard Preece, Chair of the Greater Manchester Cancer Board and Executive Lead for Quality for the Greater Manchester Health and Social Care Partnership
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Greater Manchester Health and Social Care Partnership

This page offers practical advice on how to embed perioperative medicine in Greater Manchester Health and Social Care Partnership

Embedding perioperative best practice in your priority pathway

The diagram below sets out how a perioperative approach improves the care of patients undergoing emergency abdominal surgery. Greater Manchester Health and Social Care Partnership can use the findings of the latest National Emergency Laparotomy Audit (NELA) report to improve the care of patients undergoing emergency **abdominal surgery for high-risk patients**, with application for elective surgery.



Outcome
 Improvements in the care of patients before, during and after emergency bowel surgery has led to the national 30-day mortality rate falling from 11.8 to 9.5% over the last four years. This represents approximately 700 patients' lives now saved compared to 2013. The fourth NELA report found that patients' average hospital stay has reduced from 19.2 days in 2013 to 15.6 days in 2017 saving the NHS an estimated £34 million annually.

Recommendations
 There is now a NELA app available that helps clinicians to calculate patient risk and arrange appropriate standards of care. Clinical teams should use the NELA and P-POSSUM risk calculators to inform decision-making about priority of surgery, intra and postoperative care and whether surgery is the best option for the individual. Process mapping is a helpful tool for improving the timeliness of a patients' surgery that can enable teams to understand what parts of the pathway are creating 'bottlenecks' that can be systematically address to address avoidable delays. The Guidelines for the Provision of Anaesthetic Services (GPAS, 2018) detail the specific considerations for older patients undergoing intermediate and high-risk surgery. To improve postoperative care and recovery, older patients should have access to a consultant geriatrician and there should be established liaison with social services for patients who need such support to prevent delay in discharge.



Berkshire West Integrated Care System

This page gives an overview of the Berkshire West Integrated Care System (ICS), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

The Berkshire West ICS covers a population of approximately 528,000 residents in Reading, West Berkshire and Wokingham. The local health and care system is facing a number of significant challenges including a growing elderly population, increasing demand for services, the development of new treatments and issues with staff recruitment and retention. The system wants to make faster progress in improving urgent and emergency care reform, strengthening general practice and improving mental health and cancer services.

Three ICS priorities with opportunities to integrate perioperative medicine

Three priorities identified in Berkshire West with opportunities to simply integrate perioperative medicine and reduce avoidable harm and complications:

- 1 a programme of care support targeted at those with complex diabetes, involving the use of specialist staff to support better control and avoid repeat admissions and attendances at emergency departments

Diabetes is a recognised factor for a patient to become the higher risk surgical patient. Diabetes leads to increased morbidity, mortality, and increased length of stay whatever the admission specialty, thereby increasing costs of inpatient care

– Levy et al (2016), Perioperative management of the patient with diabetes requiring emergency surgery

- 2 'teachable moment' programme to encourage lifestyle changes in people with negative cancer diagnoses
- 3 cancer recovery packages, in conjunction with holistic needs assessments.



'One in five diabetic patients go into hospital for planned surgery with their blood sugar above the recommended level, putting them at increased risk of postoperative complications. The principles of perioperative care for diabetic patients can equally be applied across the NHS.'

Managing pre-existing conditions, involving the patient in decisions about their own health and utilising the expertise of a range of healthcare professionals are fundamentals of inpatient care.

High-quality perioperative care is good for patients, good for the NHS and good for the economy.'

– Professor Michael Grocott, Chair of the Royal College of Anaesthetists' Perioperative Medicine Leadership Group



Berkshire West Integrated Care System

This page offers practical advice on how to embed perioperative medicine in Berkshire West

Embedding perioperative best practice in your priority pathway

The diagram below sets out how the perioperative management of adult inpatients with diabetes could support Berkshire West's priority to deliver: **A programme of care support targeted at those with complex diabetes, involving the use of specialist staff to support better control and avoid repeat admissions and attendances at emergency departments.** The pathway outlined below captures the perioperative management of adult inpatients with diabetes implemented within The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust and also notes the recommendations from Diabetes UK's report 'Making hospitals safe for people with diabetes' (2018).



Outcome

After introducing the UK's first specialist pre-assessment clinic for patients with diabetes on a surgical pathway, the average length of stay for inpatients with diabetes at the Royal Bournemouth hospital has reduced to a level consistent with non-diabetic patients. Since a 'Root Cause Analysis Prescription Error Pathway' was implemented, there has been a significant reduction in prescription errors and the Royal Bournemouth Hospital is now the best performing trust within Wessex with regards to insulin management and reduction in medication errors.

Recommendations

The Perioperative Quality Improvement Programme (PQIP) recommend that all patients with diabetes should benefit from a care plan – developed in collaboration between healthcare professionals and the patient – that is activated on admission to hospital. Diabetes UK recommend that hospitals should have a multidisciplinary perioperative diabetes team in place.

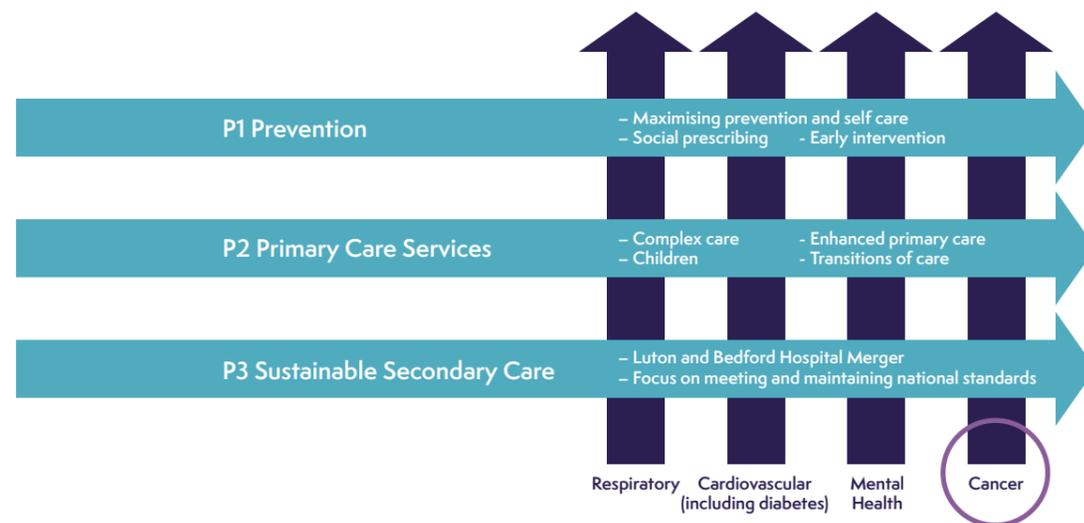


Bedfordshire, Luton and Milton Keynes (BLMK) Integrated Care System

This page gives an overview of the BLMK Integrated Care System (ICS), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

Background: As a wave one shadow integrated care system BLMK produced a Single System Operating Plan for 2018/2019. BLMK ICS aims to improve health and well-being for residents during 2018/2019 and beyond by integrating health and social care. Their key areas of focus are set out in their framework below:



Three ICS priorities with opportunities to integrate perioperative medicine

There were three key priorities highlighted in the ICS single operating plan (2018/2019) which demonstrate prime opportunities to integrate perioperative medicine:

- 1 improve cancer outcomes across the system, including prevention, waiting times, and earlier diagnosis
- 2 improve cardiovascular prevention across BLMK
- 3 improve service provision and manage bronchiolitis pathways for children.



'Historically health and social care organisations have developed their strategic plans in relative isolation of each of other. However, this year within our system we have worked together to create a single system plan, in collaboration with our general practitioner colleagues and wider stakeholders. Is it perfect? No. Is it all encompassing? No. But it is exciting; it is a new way of working that we will continue to build on.'

– Richard Carr, Senior Responsible Officer, BLMK



Bedfordshire, Luton and Milton Keynes (BLMK) Integrated Care System

This page offers practical advice on how to integrate perioperative medicine in surgical pathways across Bedfordshire, Luton, and Milton Keynes Integrated Care System

In the perioperative context the notion that physical fitness predicts patient outcome following surgery is well accepted.

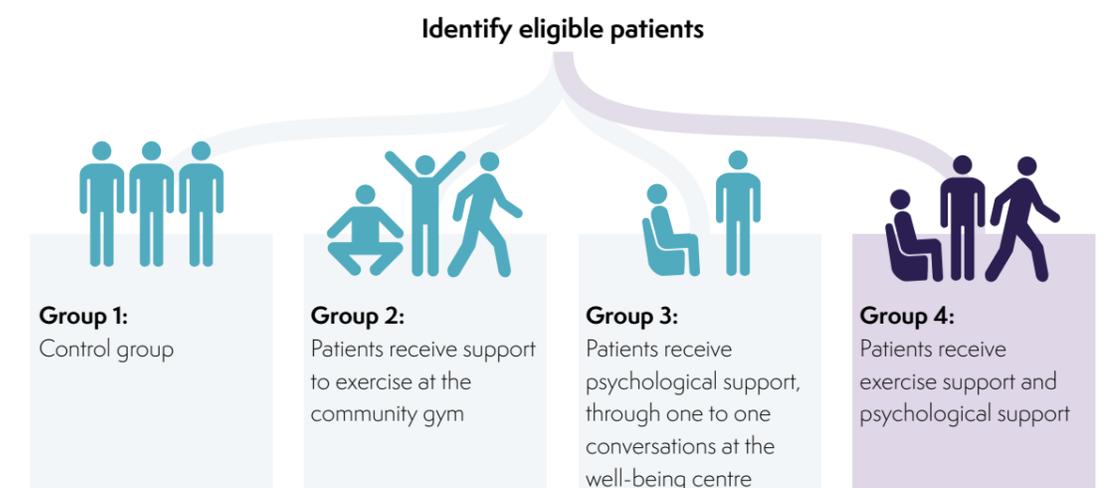
Opportunity to integrate perioperative medicine

A great example of perioperative medicine is already happening in Wessex, which, if implemented, could support BLMK meet their objective to improve cancer outcomes. This programme also fits with BLMK's wider prevention agenda.

The **WesFit cancer prehabilitation study** provides individualised pre-programmed exercise bike routines overseen by trained fitness instructors, in hospital and community settings. Psychological support for 'mental fitness' is provided alongside this.

The initiative aims to provide a robust body of evidence to support the best methods to improve the physical and mental recovery of patients following major cancer surgery. Comparing four different pathways, the programme combines the rigour of a randomised control trial with the nimbleness of a clinical service evaluation.

This is being delivered by **University Southampton NHS Foundation Trust and partners for the West Cancer Alliance**. The different pathways (for comparison) are set out below:



Outcome

Target outcomes include reduced postoperative length of hospital stay and complications after surgery. As well as changes in physical fitness and activity, quality of life, tumour regression and mortality up to one year after treatment.

So far, patients who completed this exercise training have returned to pre-treatment levels of fitness, or even improved and gained a healthier lifestyle.

Recommendations

Patient engagement was a key success factor to the project. The initial phase involved co-designing the programme with patient focus groups and discussing with a range of partners including hospitals, local charities, and private and community gyms.



Health and Care Working Together in South Yorkshire and Bassetlaw

This page gives an overview of the South Yorkshire and Bassetlaw Integrated Care System (ICS), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

A partnership of 25 organisations responsible for looking after the health and care of the 1.5 million people living in Barnsley, Bassetlaw, Doncaster, Rotherham and Sheffield. The goal of the ICS is to enable everyone in South Yorkshire and Bassetlaw to have a great start in life, supporting them to stay healthy and to live longer.

In rethinking and shaping how they currently work, the ICS wants to focus on three main priorities:

- putting prevention at the heart of what we do
- reshaping primary and community based care
- standardising hospital services.

The ICS is also undertaking a review of acute hospital services, with the aim to leverage benefits of working together across organisational boundaries.

Three ICS priorities with opportunities to integrate perioperative medicine

Identified within South Yorkshire and Bassetlaw's plan are three priorities with potential to simply integrate perioperative medicine and reduce avoidable harm and complications:

- 1 **to develop standardised care pathways and specialist sites to improve outcomes for children under-going unplanned operations, at night, at weekends, or taking overnight stays**
- 2 to develop standardised care pathways and specialist hubs to improve patient outcomes for acute gastrointestinal (GI) bleeds
- 3 to better co-ordinate and manage patient care through two or more partners or organisations, through digitally sharing records and community based multi-professional teams.



'I started as a consultant anaesthetist in 1993 and I used to say we should lead the patient work-up, and look after the patient post-op too. As an anaesthetist I believe our role is about looking after the patient across the whole pathway.'

– Professor Des Breen, Clinical Lead for the South Yorkshire and Bassetlaw Integrated Care System



Health and Care Working Together in South Yorkshire and Bassetlaw

This page offers practical advice on how to embed perioperative medicine in South Yorkshire and Bassetlaw ICS

Embedding perioperative best practice in your priority pathway

The diagram below sets out how perioperative medicine could be embedded into the redesigned children's surgery and anaesthesia pathway to meet South Yorkshire and Bassetlaw's priority: **To develop standardised care pathways and specialist sites to improve outcomes for children under-going unplanned operations, at night, at weekends, or taking overnight stays.** The pathway on the right is drawn from the Royal College of Anaesthetists' Guidelines for the Provision of Anaesthesia Services (GPAS) (bit.ly/RCoA-GPAS).

The current children's surgery/ anaesthesia pathway:

If a child needs an operation under general anaesthetic at night/weekend/for an overnight stay, they are taken to one of three specialist hub sites providing 24/7 maintenance of surgical care.

- Doncaster Royal Infirmary
- Pinderfields General Hospital in Wakefield
- Sheffield Children's Hospital

Children's operations for identified specialties will not happen at

- Barnsley Hospital NHS FT
- Chesterfield Royal Hospital
- The Rotherham NHS FT



'This redistribution of care addressed previous concerns that there was no guarantee in securing an anaesthetist for paediatric surgery at night or at a weekend.'

– Professor Des Breen, Clinical Lead for the South Yorkshire and Bassetlaw Integrated Care System



Opportunities to embed perioperative medicine:

There are ample opportunities to embed perioperative medicine to ensure patients get the best out of this redesign:

- Paediatric services could be coordinated through regional networks for surgery and anaesthesia which are established and maintained by CCGs. These provide links between departments of paediatrics, surgery, anaesthesia and critical care in non-specialist centres and the corresponding specialist paediatric centres
- Hospitals could engage with networks to develop agreed care pathways for cohorts of patients
- Regional audits and standards should be considered to standardise procedures
- Ensure formal arrangements and agreed protocols are in place with neighbouring units without inpatient beds, for rapid assessment and transfer of patients

Recommendations

- Paediatric surgical services should operate under a single delivery framework that appropriately stratifies patients according to the acuity of their need. This framework should be structured as a 'hub and spoke' model, centred around a tertiary children's hospital as a 'hub.'
 - A similar model for the 27 major trauma centres in England has led to the survival of 1,600 patients in the five years since they were established in 2012.
- Having anaesthetists with the appropriate paediatric training is a key recommendation from the GPAS guidelines
 - South Yorkshire and Bassetlaw already has potential to be an example of best practice.



Nottingham and Nottinghamshire Integrated Care System

This page gives an overview of the Nottingham and Nottinghamshire Integrated Care System (ICS), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

Background: Nottingham are looking at ways of improving the health of our population as a whole, rather than simply focusing on individual cases of care. Their aim is to identify and support people in greatest need, preventing the progression of disease and promoting wellness to the wider population. To achieve this, one of the ICS's key priorities is to:

Ensure consistent and evidence-based pathways in planned care

As part of this they are standardising elective care pathways to achieve better value by reducing unwanted clinical variation, and within this improving elective specialist care services. They are also looking to develop innovative new models to transform the management and delivery of planned care. The priorities below fall within these objectives.

Three ICS priorities with opportunities to integrate perioperative medicine:

- 1 to implement enhanced recovery procedures, to reduce length of stay and improve elective specialist care services
- 2 to put in place more effective processes for discharging people from hospital, including cross-organisational teams based on patient cohorts (eg frailty)
- 3 to ensure there is sufficient capacity within the system to deliver consistent and sustainable health lifestyle services and pathways.



'It was always clear that embedding perioperative medicine would require a revolution in thinking. I can now see how the approach has gained more of a foothold and with the pathway redesign opportunities afforded by the Integrated Care Systems, it feels like the time is opportune to deliver a perioperative pathway model across the whole NHS'

– Dr David Selwyn, Deputy Medical Director, Nottingham University Hospitals NHS Trust



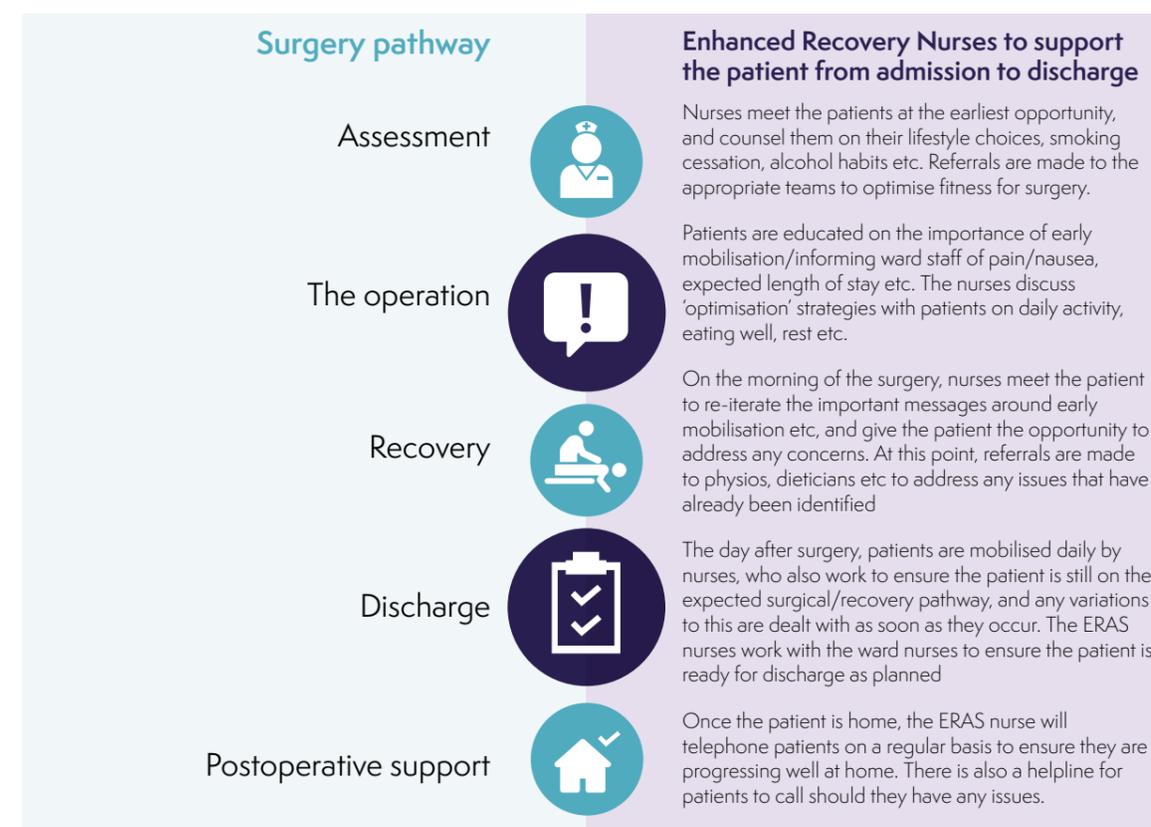
Nottingham and Nottinghamshire Integrated Care System

This page offers practical advice on how to integrate perioperative medicine in care pathways across Nottingham and Nottinghamshire ICS

Embedding perioperative best practice in your priority pathway

Nottingham ICS are working to improve capability to enhanced recovery procedures, to reduce length of stay and improve elective specialist care services.

The diagram below sets out the perioperative pathway at **University Hospital Midlands NHS Trust** where, for specific surgeries there are a team of Enhanced Recovery nurses, whose roles are to support the patient all the way through their surgical pathway.



Outcome

- Improves the physical and psychological stress associated with surgery.
- Is expected to reduce length of stay in hospital, increase life expectancy after surgery, and prevent avoidable readmissions resulting from complications.

Recommendations

- There is potential to scale up and spread these best practice pathways across trusts. The Enhanced Recovery After Surgery+ (ERAS+) programme in Manchester is a good example of this (see page 33).
- Further case studies on enhanced recovery are available on the RCoA website (bit.ly/POMcasestudies), including enhanced recovery pathways in elective colorectal surgery in Milton Keynes, and a Step-Down Unit and Derby Hospital.



Dorset Integrated Care System

This page gives an overview of the Dorset Integrated Care System (ICS), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

Background: Dorset’s vision to provide services to meet the needs of local people and deliver better outcomes. They have three main programme priorities:

- prevention at scale – to help people to stay healthy and avoid getting unwell
- integrated Community Services – to support individuals who are unwell by providing care at home or in the community
- ‘One Acute Network’ – to help those who need the most specialist support through a single acute care system across Dorset.

The one acute network will help those who need the most specialist support through a single acute care system across Dorset. The One NHS in Dorset (Acute Vanguard) includes transforming areas such as cancer, cardiology, and maternity and paediatrics.

Three ICS priorities with opportunities to integrate perioperative medicine

Three priorities highlighted identified in the ICS plans which demonstrate opportunities to integrate perioperative medicine are below:

- 1 **establish single acute networks for cancer services as a part of establishing ‘One Acute Network’**
- 2 reconfigure three district general hospitals into three centres of excellence
- 3 transforming maternity and paediatric services that are delivered in our acute hospitals and in the community.

Note: Dorset is already a pioneer of best practice in perioperative medicine. The Weymouth and Portland Integrated Care Hub, based at Westhaven Community Hospital, is a pioneering partnership project helping to deliver faster, more joined-up care for the frail, the elderly and people with long-term health problems in the area.



‘We want to support our workforce to work across hospital sites and beyond organisational boundaries in a single Dorset wide network of skilled professionals.’

– Paula Shobbrook, Director of Nursing,
Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust



Dorset Integrated Care System

This page offers practical advice on how to integrate perioperative medicine in the surgical pathways across Dorset Integrated Care System

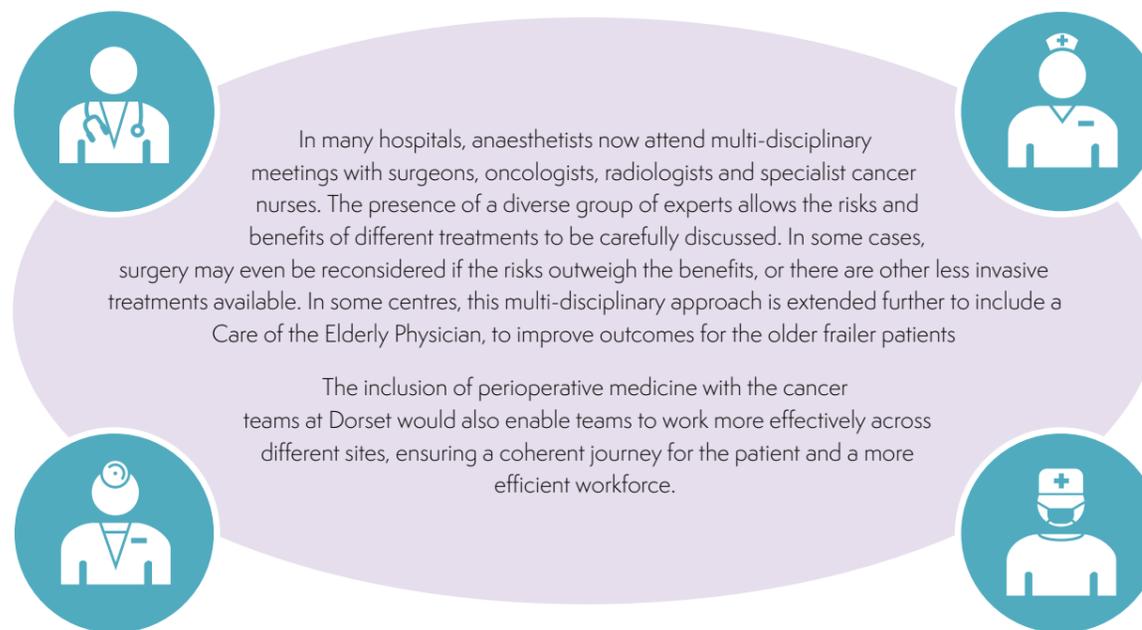
Embedding POM best practice in your priority pathway

The Dorset ICS are not meeting the NHS Constitution standards for cancer referrals and treatment within 31 and 62 days. To address this, they are working to establish a single acute network for services such as cancer, heart disease and stroke, so that consistent services are provided for people across Dorset.

The ‘One Acute Network’ will deliver improved outcomes for cancer patients by delivering at a local level the Achieving World Class Cancer national strategy, and Wessex Strategic Vision for cancer services. The plan is to reconfigure the organisation of our existing three district general hospitals into three centres of excellence with better defined and more specialist roles, to enable them to deliver high quality healthcare as part of one collaborative network.

The Royal Bournemouth Hospital has established perioperative care services that provide a valuable resource to be tapped into by partners and scaled across the wider network.

To embed perioperative medicine within this acute network, and improve outcomes for patients, Dorset could embed multi-disciplinary teams. The College’s report *Perioperative Medicine: The Pathway to Better Surgical Care* sets out how this works in the cancer pathway, and the benefits of MDTs. This is summarised below:



Outcome

Improved working between teams, across disciplines, and across hospital sites, and beyond traditional boundaries which should result in better outcomes for the patients within the ‘One Acute Network’.

Recommendations

Connect with the Westhaven hospital community hospital to learn from their experiences developing the integrated care hub.



Buckinghamshire Integrated Care System

This page gives an overview of the Buckinghamshire Integrated Care System (ICS), its aims, priorities and opportunities to integrate perioperative medicine

Overview of the ICS and priorities

The Buckinghamshire ICS sits within the Berkshire West, Oxfordshire, and Buckinghamshire Sustainability and Transformation Partnership (STP), with which it shares priorities.

Buckinghamshire's vision is: 'Everyone working together so that the people of Buckinghamshire have happy and healthier lives'

Buckinghamshire ICS is working with other ICSs, including Berkshire West (part of the BOB STP), Frimley and Milton Keynes, Bedfordshire and Luton, with which they have common interfaces and patient referral flows.

Three ICS priorities with opportunities to integrate perioperative medicine

Three priorities identified in Buckinghamshire with opportunities to simply integrate perioperative medicine, thereby reducing avoidable harm and complications are:

1 perioperative measures to prevent surgical site infections (SSIs)

Among the ICS' priorities for 2018/2019 include keeping patients safe by improving recognition of sepsis, reducing infections and recognition of deterioration of patients

Buckinghamshire Integrated Care System, Integrated Operations Plan 2018–2019

- 2 population Health programme to support reduction of incidence of preventable cancers through **smoking cessation and obesity programmes**
- 3 integrating the **diabetes service across primary, acute and community care.**



'SSIs are associated with longer postoperative hospital stays, additional surgical procedures, treatment in intensive care units and higher mortality.'

– European Centre for Disease Prevention and Control, Annual Epidemiological Report on Communicable Diseases in Europe, 2016



Buckinghamshire Integrated Care System

This page offers practical advice on how to embed perioperative medicine in the Buckinghamshire Integrated Care System (ICS)

Embedding perioperative medicine best practice in your priority pathway

The diagram below sets out how POM could be embedded into major surgery pathways to meet Buckinghamshire's priority: **Perioperative measures to prevent surgical site infections (SSIs).**

The pathway on the right is drawn from the Greater Manchester Enhanced Recovery After Surgery+ (ERAS+) case study.

Surgical site infection represents significant costs to the NHS, ranging from £2,100 to £10,500 per infection depending on the nature of the surgery. Expert opinion suggests that costs can be as high as £20,000 per surgical site infection for complex surgery and up to £14,000 for more general surgery



Outcome

- Reduction of postoperative chest infections by 50%.
- An average reduction in length of stay of three days.
- Savings of £500,000 per year.

Recommendations

- Develop and implement an ERAS+ pathway that incorporates coordinated preoperative and postoperative interventions.
- Provide patient information as an aid to prepare for, and recover after, surgery. The College's Fitter Better Sooner toolkit is endorsed by the Royal College of General Practitioners and the Royal College of Surgeons of England and can be accessed by patients and professionals at: bit.ly/AnimationFBS

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