Centre for Perioperative Care

British Geriatrics Society
Improving healthcare for older people

Guideline for Perioperative Care for People Living with Frailty Undergoing Elective and Emergency Surgery

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Webpage link

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Foreword

The Centre for Perioperative Care (CPOC) is a cross organisational body, aiming to facilitate and promote delivery of quality perioperative care; the practice of patient-centred, multidisciplinary and integrated care of patients from the moment of contemplation of surgery until full recovery. Given this remit, CPOC is in a unique position to collate and evaluate evidence to develop and implement new guidelines to support delivery of perioperative care.

Frailty is a condition characterised by loss of biological reserves, failure of physiological mechanisms and vulnerability to a range of adverse outcomes including increased risk of morbidity, mortality and loss of independence in the perioperative period. With the increasing recognition of the prevalence of frailty in the surgical population and the impact on postoperative outcomes, CPOC and the British Geriatrics Society (BGS) have worked together, building on existing work, to develop a whole pathway guideline on perioperative care for people living with frailty undergoing elective and emergency surgery.

Delivering whole pathway, quality perioperative care requires multicomponent intervention, with integration across community, primary, secondary and social care. A multidisciplinary 'one-team' approach across these sectors is necessary to deliver each component of the pathway:

- patient and carer involvement, education and empowerment
- preoperative risk assessment and optimisation of physiological status, co-morbidities and geriatric syndromes including frailty
- lifestyle modification to improve both perioperative and long-term health outcomes
- shared decision making (SDM)
- optimal intraoperative surgical and anaesthetic management
- quality postoperative care in the most appropriate setting to include rehabilitation
- proactive discharge planning
- links and referral to relevant community, primary care and follow up services.

Perioperative care for people living with frailty is particularly complex and deficiencies in current perioperative pathways have been well described. Despite published interventions for frailty, an implementation gap between recommended care and routine perioperative practice exists. This may be a consequence of too few geriatricians, silo working and difficulties in embedding complex interventions for frailty in the clinical setting, compounded by unintended consequences of time-based targets (for example the 62 day cancer pathway) and a lack of commissioning incentives to embed a whole pathway perioperative team. To address this challenge, this new guideline has been coordinated by CPOC and the BGS, working with patient representatives and all stakeholders involved in the perioperative care of patients with frailty undergoing surgery.

As such, the scope of this guideline covers all aspects of perioperative care relevant to adults living with frailty undergoing elective and emergency surgery. It is written for healthcare professionals involved in delivering care throughout the pathway, as well as for patients and their carers, managers and commissioners. Implementation

of the guideline will require collaboration across the four nations of the United Kingdom between all stakeholders, underpinned by an implementation strategy, workforce development with supporting education and training resources and evaluation through refinement of current national audit tools. We believe this is an important step in improving outcomes for our patients and healthcare services.

Jude Partridge, Jugdeep Dhesi, Dave Selwyn

Frailty Guideline Working Group

Please see below a full list of contributors to this guidance and their organisational affiliations. We would like to thank the following for contributing to the CPOC guideline for perioperative care for people living with frailty.

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Guideline review

This is version 1.0 of this guidance document, published in X 2021. Any updates made to this guidance will be reflected in the table below and included in subsequent versions.

Version	Change	Date
1.0	First publication	

Date of review: 2024

Background

Increasing numbers of older people are undergoing elective and emergency surgery. This is unsurprising given the prevalence of degenerative, neoplastic and vascular disease in the older population. Whilst there may be symptomatic and longevity benefits from surgery in older people, adverse postoperative outcomes are more frequently observed in this group compared to younger people, particularly in the emergency setting.

Frailty is now recognised as a significant risk factor for complications in surgical patients. A recognisable and measurable clinical syndrome, frailty is defined as a multidomain decline in physiological reserve and function resulting in an increased vulnerability to stressors. Characterised by a cumulative decline in homeostatic mechanisms, frailty is associated with, although not universally observed in, ageing. Unsurprisingly, frailty is also related to multimorbidity, with seven of ten patients with frailty also living with multimorbidity. Furthermore, there is a complex interrelationship between frailty, sarcopenia, cachexia and disability. This interplay between adverse risk factors results in hospital acquired geriatric syndromes (including falls, functional deconditioning, nutritional compromise and delirium) with resultant detrimental impact on postoperative outcomes including complications, mortality, and patient reported outcomes such as quality of life and loss of independence. Despite the prevalence and complexity of these overlapping syndromes and issues, the current perioperative pathway is not tailored to the needs of the older person living with frailty.

The elective surgical pathway usually starts with primary care referral and is often followed by surgical consultation and preoperative assessment. However, some elective pathways, most notably those for possible cancer, sometimes involve diagnostic assessment and multi-disciplinary decision-making prior to the first surgical consultation. Despite the importance of frailty in the perioperative setting, at present it is not routinely examined. Whilst frailty assessment is increasingly undertaken in primary care, the result is rarely documented in surgical referral letters and the lack of an integrated primary and secondary care electronic patient record can make information inaccessible across sectors.

Emergency surgical patients usually present through urgent access clinics or the emergency department. With initiatives including the British Geriatrics Society silver book II and the Acute Clinical Frailty Network, frailty is increasingly assessed in emergency department settings, but not yet routine in surgical admissions.

As routine frailty screening is not yet embedded into elective or emergency surgical pathways, there is a lack of timely involvement of teams with frailty expertise and therefore inadequate implementation of evidence-based interventions to modify the frailty syndrome.

Furthermore, the importance of frailty in accurately appraising the risks and benefits of surgery and other treatment options is poorly recognised during the process of shared decision making (SDM) both by clinicians and patients. This can result in under or overestimation of perioperative risk, with either inappropriate interventions

or reduced access to beneficial interventions and the potential for decisional regret and decisional conflict.

Patients with frailty are more likely to have postoperative complications, geriatric syndromes (delirium, falls and hospital acquired deconditioning) and complex discharge issues. These may be predicted if frailty is identified early in the surgical pathway and mitigated using multidisciplinary interventions delivered by a specialist frailty team. Discussions with patients and their carers should include realistic expectations for physical, mental and functional recovery. Furthermore, clinical teams should be aware of Advance Healthcare Directives or Advance Decision to Refuse Treatment (ADRT). An existing directive requires consideration and discussion with the patient and/or carers in the context of the proposed intervention.[1]

Whilst the principles of risk assessment, optimisation and shared decision making in people living with frailty are the same in the elective and emergency setting, it can be more challenging to embed these practices into emergency surgical pathways. For example, there may be insufficient time for specialist assessment to appraise and optimise frailty and feed into shared decision making. In addition, in the emergency setting the need for proactive treatment escalation planning is of particular importance. Addressing this requires all staff members to understand the principles of frailty assessment, and the impact of frailty and the potential for modification of risk. Good team-working requires a 'trans-disciplinary' approach where core skills are shared and not specific to one discipline.

Comprehensive Geriatric Assessment (CGA) and optimisation is the gold standard for assessment and optimisation of frailty with a robust evidence base in community and medical settings. Evidence is now emerging for the clinical and cost effectiveness of CGA in both the elective and emergency perioperative setting. As a result, perioperative CGA- based services for people living with frailty are being established but are not yet routine outside orthogeriatric medicine. The uptake of new models of perioperative care for people living with frailty has been limited by a number of factors; evidence supporting multicomponent interventions for frailty, effective collaboration, commissioning of funded services, availability of workforce, education and training resources and guidelines relevant to the whole pathway. Overcoming these challenges requires a multi-component approach. This new guideline provides recommendations to facilitate the delivery of quality perioperative care for adults living with frailty undergoing surgery (Figure 1).

What is the anticipated impact of this guideline?

- Improved outcomes for the estimated 300,000 older people living with frailty who undergo surgery each year
- Effective use of surgical waiting lists as 'preparation lists'
- Improved general health of people living with frailty
- Improved shared decision making, ensuring equity, appropriate surgery and avoidance of decisional regret
- Improved postoperative recovery for people living with frailty

[1] https://www.nhs.uk/conditions/end-of-life-care/advance-decision-to-refuse-treatment/

- Efficient perioperative pathways avoiding duplication and waste
- Establishment of services aligned to the needs of people living with frailty
- Equity of access to specialist care
- Improved trans-disciplinary working and inter-speciality communication

Standards

All hospitals should work with commissioners to develop pathways of perioperative care that comply with the recommendations in these guidelines.

All hospitals should appoint a clinical lead for perioperative frailty. This person should be responsible for developing, implementing, and auditing policies and processes to ensure quality perioperative care for people living with frailty.

All patients aged over 65 years, and younger patients at risk of frailty, referred for elective or emergency surgery should have frailty status documented at referral, preoperative assessment and admission using the Clinical Frailty Scale (CFS).

All patients identified as living with frailty (CFS≥5) should undergo CGA and optimisation prior to surgery tailored to the time available.

All patients with (CFS≥5) should have an assessment of cognition documented using a validated tool prior to surgery.

All hospitals should have a guideline for prevention and management of delirium applicable to the perioperative setting.[2]

All hospitals should have a Perioperative care for Older People undergoing Surgery (POPS) team, with frailty expertise, providing clinical care throughout the pathway.

All staff working with patients at risk of frailty should receive training on frailty, delirium and dementia.[3]

Adherence to the recommendations in this guideline should be measured and regularly reviewed to inform continuous quality improvement.

[2] Reference NICE delirium guideline/ SIGN delirium guideline
[3] Link to HEE

Recommendations for people living with frailty and their carers

As a patient aged 65 and over (or someone at increased risk of frailty) being considered for planned or emergency surgery, you should:

- expect to be assessed for frailty
- ask questions about your proposed surgery, including the benefits, risks, non-surgical alternatives and what will happen if we do nothing (this is called shared decision making)
- tell your healthcare team about what is important to you in your life and what you want to be able to do in the future
- think about discussing
    - what is important for your quality of life
    - how surgery or other treatments might affect your day to day life
    - how your other health conditions might affect recovery from surgery
    - the possibility that surgery may allow you to live longer but with greater care needs
    - survival with or without surgery
    - survival with or without other treatment options
    - complications with or without surgery or other treatment
    - what treatments you would want to consider if there are serious complications after surgery and which you would not
    - completing a 'what matters to me' document to help support any conversations with healthcare professionals
- bring any information about your medications or previous health conditions to your appointments
- consider coming to appointments with your relative or carer to support you
- prepare for surgery or other treatment in good time. This may include
    - stopping smoking *(practical resource X)*
    - increasing your physical activity/exercise *(practical resource X)*
    - having a healthy diet *(practical resource X)*
    - achieving a healthy weight*(practical resource X)*
    - keeping your alcohol intake within recommended levels (<14 units per week) and stopping all alcohol at least 2 weeks prior to surgery
    - stopping use of illicit drugs *(practical resource X)*
    - preparing mentally for surgery *(practical resource X)*
    - making practical changes at home and thinking about things you might need at home when you leave hospital
    - involving your relatives, carers and friends to support you when you leave hospital
    - discussing your financial and care plans with relatives, carers and friends
- expect your emotional and spiritual needs to be taken into account at all times
- expect access to perioperative frailty teams (e.g. POPS) throughout the perioperative pathway
- expect hospitals to have a designated clinical lead for frailty

- expect to be provided with information to support your continuing recovery when discharged from hospital
- expect all staff who work with patients living with frailty to have had appropriate training to support your care

Recommendations for commissioners and providers of surgical services for people living with frailty

Commissioning bodies should:

- work collaboratively with providers to develop a system approach to support patients living with frailty undergoing surgery. This will require cross boundary working with community, primary, secondary, social care and voluntary sector services to develop perioperative pathways for people living with frailty
- work with providers to ensure mechanisms are in place for assessing and documenting frailty in community, primary and secondary care
- ensure provision of services delivering perioperative CGA-based assessment and optimisation for people living with frailty

Hospitals should:

- appoint a clinical lead for people living with frailty with responsibility for the perioperative setting. In smaller settings, this may be the hospital frailty lead, whereas in bigger organisations two roles may be required
- support the clinical lead in developing, implementing, and auditing policies and processes to ensure quality perioperative care for people living with frailty (see metrics). The individual should work
    - with national initiatives such as GIRFT, NHS Benchmarking and HQIP clinical audit programmes to ensure data linkage
    - support service development through links with organisations such as NHS Elect Perioperative medicine for Older People undergoing Surgery (POPS) network
    - signpost local teams to relevant education and training resources *(practical resource X)*[4]
- have a perioperative care team with frailty expertise based on CGA methodology, providing clinical care throughout the whole perioperative pathway. One example is the Perioperative medicine for Older People undergoing Surgery (POPS) service *(practical resource X)*
- support establishment of multidisciplinary and multi-specialty governance, audit, and morbidity & mortality meetings. This will provide a forum from which the clinical lead can deliver quality care and quality improvement.
- have a strategy to promote and support day surgery for people living with frailty based on British Association of Day Surgery Directory of Procedures
- promote use of Enhanced Recovery (ER) programmes, incorporating this guidance for all surgical patients living with frailty
- develop common care pathways (e.g. for hip fracture care or emergency laparotomy). These pathways should be co-designed with patients, carers and the local team delivering care and reviewed regularly *(practical resource X)*
- ensure all staff have access to training and educational opportunities;

[4] MSc, MOOC AoMRC, RCP programme, Centre for Advancing Practice

    - all staff (including non-patient facing) should complete eLfH Tier 1 Skills for Health care frailty capabilities (practical resource)
    - all registered staff members should complete eLfH Skills for Health Tier 2 training in frailty (practical resource) and training in delirium (practical resource X)[5]
    - perioperative lead for people living with frailty should complete Tier 3 training (BGS eLearning module) or equivalent
    - all senior decision makers should have access to Tier 3 training (BGS eLearning module) or equivalent

- work with training programme directors to develop training opportunities for foundation doctors and specialist registrars in perioperative care for people living with frailty *(practical resource X)*
- use national resources to develop the nursing and allied health professional workforce to deliver perioperative care for people living with frailty *(practical resource X)*
- invest in technologies to support identification of people living with frailty on patient administration electronic systems that can be accessed across community, primary and secondary care *(practical resource X)*
- invest in technologies that facilitate tracking of patients with CFS≥5 through their hospital stay
- support shared decision making through use of tools such as BRAN (Considering the Benefits, Risks and Alternatives of a treatment option and what happens if Nothing is done)[6] in the perioperative setting, acknowledging that this is an iterative process undertaken throughout the pathway
- ensure regular funded and documented multidisciplinary team meetings for in-patients are conducted to facilitate effective discharge planning
- allow necessary variation in the perioperative pathway, when clinically appropriate e.g. pauses to the cancer pathway to optimise a long-term condition. This would enable patient-centred assessment, optimisation and facilitation of shared decision making prior to surgery
- ensure protocols for documentation of treatment escalation plans and advance care planning that can be accessed across community, primary and secondary care (e.g. Coordinate My Care) *(practical resource X)*
- have visiting policies that support in-patient care for people living with frailty and promote initiatives such as John's Campaign *(practical resource X)*
- provide written information for people living with frailty about what they can do to prepare and what they can expect in the perioperative pathway.

[5] Practical resource https://portal.e-lfh.org.uk/Component/Details/664998
[6] CWUK

Recommendations for primary care teams

Primary care teams should:

- support and work with people living with frailty to ensure access to the most appropriate treatment/therapy and/support, including surgery
- start the shared decision making process including promoting an awareness of the potential for non-surgical management options. This may include a move away from 'referral for surgery' to 'referral to explore treatment options' *(practical resource X)*

Primary care teams should Make Every Contact Count[7] and use consultations as teachable moment and an opportunity for brief interventions to address lifestyle modification with proven benefit (supported by patient and carer information, written or provided in other modality). This will include:

- optimisation of co-existing conditions e.g. diabetes, hypertension, heart failure, anaemia
- physical activity and exercise
- Optimisations of medications eg by use of the STOPP/START tool *(Practical resource X)*
- weight management (noting that if weight loss is deemed beneficial strategies are implemented to preserve lean body mass) and if malnutrition is present strategies to improve nutritional status are utilised
- smoking cessation
- alcohol consumption within government recommended levels
- support with substance abuse
- psychological preparation

Primary care referrals requesting surgical consultations for people living with frailty should include:

- frailty score (eg electronic frailty index (eFI), CFS, Edmonton Frailty Scale (EFS)
- nutritional status
- presence, severity and management of comorbidities
- list of all current medications (including dose/route)
- presence of cognitive impairment and any diagnosis of dementia or previous episodes of delirium
- current functional abilities and/or caring responsibilities
- details of advanced care directives or named lasting power of attorney for health
- proactively initiation of the CGA process in the community or referral to local CGA clinics

[7] makingeverycontactcount.co.uk

Recommendations for staff working in elective surgical outpatient settings; surgical outpatients and preoperative assessment services

Surgical and preoperative assessment teams should:

- review information from community and primary care regarding frailty status
- reassess frailty status using a validated tool (CFS) for all patients aged over 65 years or in patients aged under 65 years considered as frail
- document frailty using a validated tool (CFS) for all patients aged over 65 years or in patients aged under 65 years at risk of frailty
- document syndromes or conditions that often coexist with frailty; sarcopenia, malnutrition, multimorbidity, cognitive impairment
- ensure that up to date information on functional status is available
- preoperatively refer people living with frailty or associated syndromes to teams with frailty expertise (e.g. POPS) if for example CFS≥5 or eFI>0.24
- if they have no access to perioperative frailty team (e.g. POPS) then apply the frailty intervention tool *(see table 1)*
- identify and refer to perioperative frailty service or specialist pharmacist people who would benefit from comprehensive medication review based on:
    - polypharmacy (5 or more daily medications)
    - anticholinergic burden[8]
    - delirium precipitants
    - medications that may precipitate acute kidney injury or hypotension *(practical resource X)*[9]
- undertake and document individualised shared decision making considering the benefits, risks, and alternatives to surgery (including doing nothing), taking into account the impact of frailty on post-operative outcome including morbidity, mortality, functional and cognitive status, quality of life and expected survival in those living with frailty
- apply the seven principles of decision making and consent according to GMC guidance for consent (September 2020). If the patient is assessed as not having capacity to consent to the intervention, the appropriate legal framework should be applied *(practical resource X)*
- promote day surgery or admission on the day of surgery for people living with frailty wherever possible, using the same principles as those used when considering patients without frailty.
- ensure use of Enhanced Recovery After Surgery (ERAS) programmes that include interventions for frailty
- plan and document the perioperative period including
    - admission plan (timing, day, place, medication changes).

[8] www.acbcalc.com

[9] Sarah T to please send resources

    - place of postoperative care using risk assessment using validated tools and end of surgical bundle, according to other guidelines *(Practical resource X)*[10]
- advise patients to bring for example prosthetic limbs, sensory aids, devices used for sleep apnoea or wheelchairs etc
- ascertain presence of pre-existing DNAR/ACP/ADRT and ensure documentation complete and available
- discuss treatment escalation plans and advance care plans This should include an explicit discussion about
    - what may happen prior to the planned date for surgery e.g. if an aortic aneurysm ruptures prior to the date for surgery,
    - what will and will not happen if complications occur, both in terms of medical treatment and potential impact on functional status necessitating social care e.g. kidney complications may result in the need for dialysis or functional decline may result in the loss of independence requiring a new or increased care package or discharge to a care home
- plan and document the discharge plan including patient and carer roles, anticipated rehabilitation and social care requirement, place of discharge
- ensure discussion with the patient regarding who they would like to be informed about their care. Aim to proactively communicate with carers and families as patients wish, regarding preoperative optimisation, anticipation of complications and discharge related issues, benefits, risks, alternatives of surgery and advance care planning
- proactively advise patients living with frailty to involve their relatives and carers
    - in discussions about their treatment
    - the practicalities of the surgical admission (e.g. arranging for a family member to stay overnight after day surgery, rearranging furniture after a joint replacement, planning what support they are able to provide after surgery for example help with domestic chores, meal preparation)
    - in considering treatment escalation and advance care plans
    - in supporting the patients recovery through actively participating in delirium management, avoidance of deconditioning (see practical resources)
- proactively communicate with the next of kin or person with lasting power of attorney (LPA) for health in above discussions if the patient does not have capacity to make their own decisions. If the patient does not have capacity and there is no next of kin, then the legal framework should be applied *(practical resource X)*
- proactively advise and provide information to patients living with frailty or their next of kin/LPA where the patient does not have capacity
    - about the availability, need for and how to access social care services
    - about what can be provided by health and social care services[11]

[10] RCS high risk surgical patient, CPOC – preop assessment and optimisation, FICM/CPOC – enhanced care

[11] RESPITE

- Make Every Contact Count; use consultation as a teachable moment or as an opportunity for brief interventions to address lifestyle modification that has proven benefit (supported by patient and carer information, written or provided in other modality):
    - increased physical activity and exercise
    - weight management
    - nutrition and hydration
    - smoking cessation
    - alcohol consumption within government recommended levels
    - psychological preparation
    - optimisation of sensory impairment (e.g. spectacles, hearing aids)

Recommendations for staff working in surgical wards areas

Ward staff should follow recommendations from the previous sections when caring for patients admitted electively or as an emergency.

In addition, they should:

- adhere to Enhanced Recovery programmes
- ensure patients have access to dentures, sensory aids and ensure safe-keeping of such aids *(practical resource X)*
- ensure there is relevant expertise and sufficient time allowed on ward rounds to address all aspects of care and communicate effectively with patients living with frailty *(practical resource X)*[12]
- participate in a regular multidisciplinary team meeting (MDTM) where all in-patients with frailty are discussed
    - This may be a virtual or face to face meeting
    - The frequency will be informed by the surgical population (this may be a daily board round or a weekly discharge MDTM and influenced by the acuity and length of stay of the patient group)
    - Discussion and documentation of the following should occur:
        - Progress; medical, surgical and functional complications
        - Treatment; medical, surgical and rehabilitation
        - Review, discussion and documentation of treatment escalation plans and advance care plans *(practical resource X)*
        - Discharge plans
- proactively screen for delirium daily (for example using a validated tool such as 4AT) *(practical resource X)*
- proactively document delirium, implement delirium guidelines and discuss with patient and carers (resources – need a few here) (practical resource – TIME?) ?)
- assess, document and manage pain, using relevant pain assessment tools and interventions (minimising opiate use as much as possible and involving specialist pharmacists, pain team or frailty team) *(practical resource X)*[13]
- use strategies to minimise hospital acquired deconditioning (practical resources)
    - ensure early referral to therapy/dietetic teams
    - encourage bed-based exercises and early mobilisation
    - support nursing staff to assess ability to mobilise without waiting for therapy team advice
    - encourage walking to the toilet rather than relying on bedside facilities
    - encourage sitting out of bed for as much time as can be tolerated during the day
    - encourage eating and drinking ideally out of bed
    - provide hydration and nutritional intake to address the surgical stress response and mitigate loss of muscle mass, strength and functionality,

[12] RCP ward rounds doc
[13] PANAID for people with cognitive impairment

    - encourage washing and dressing (ideally in their own clothes) and promote independence to undertake as many tasks as able
    - remove catheters/drains/other attachments as soon as appropriate to reduce impact on mobility and reduce delirium risk
    - prevent and/or manage any pressure injury
- ensure discussion with patients regarding who they would like to be informed about their care. Aim to proactively communicate with carers and families as patients wish, regarding
    - postoperative progress and complications
    - discharge related issues
    - treatment escalation and advance care plans
- establish a method of communication for the patient to contact relatives (phone/ipad/money for bedside phone and TV) to reduce the impact of the change in environment.
- ensure a proactive, planned approach to safe, timely and effective discharge. This should occur from the moment surgery is contemplated, in parallel with ongoing medical and surgical intervention and with active engagement with discharge community and social care teams
- proactively review, document and enact the discharge plan including
    - explicit discussion of patient and carer roles
    - anticipated rehabilitation and social care requirement *(practical resource X)*[14]
    - place of discharge
- proactively identify and address potential barriers to discharge
- ensure timely communication about discharge plans with community, primary and social care (practical resources – Discharge to Assess)
- develop links with palliative care and community support services for occasions when a non-operative approach is taken

Specific considerations in the emergency setting

In addition to the recommendations above, staff working with patients admitted through emergency departments or surgical admission units should:

- obtain and document a collateral history, drawing on input from relatives/carers, paramedic crews, General Practitioners or other community teams where applicable – including the presenting complaint, comorbidities, living arrangements, level of mobility and any aids used, functional status, mood, memory, continence etc.
- ensure documentation of contact numbers for care providers if available
- be aware of atypical presentations of surgical pathology that are common in older people living with frailty (for example delirium as the presenting complaint in small bowel obstruction)

[14] From Angeline price

- ensure usual attention to physiological optimisation of the emergency surgical patient
- proactively undertake shared decision making and treatment escalation planning, taking prior Advance Healthcare Directives or Advance Decision to Refuse Treatment (ADRT)into consideration, as detailed in previous sections, regardless of the short timeline
- follow established care pathways for emergency surgery, for example hip fracture, emergency laparotomy, silver trauma *(practical resource X)*
- refer patients with CFS≥5, living with frailty or associated syndromes to teams with frailty expertise regardless of the short timeline
- if no access to perioperative frailty team (e.g. POPS) then apply the frailty intervention tool (table 1) regardless of the short timeline
- document risk factors for delirium and modify appropriately *(practical resource X)*[15]
- screen all patients with CFS ≥5 daily for delirium using a validated tool such as the 4AT and prevent and manage delirium according to hospital guidelines *(practical resource X)*

[15] PINCH ME

Recommendations for staff in theatre and recovery

Theatre and recovery staff should:

- use ERAS pathways
- use information provided by teams earlier in the perioperative pathway to develop an individualised intraoperative plan
- ensure senior anaesthetic and surgical input, particularly for emergency cases given the higher risk of perioperative morbidity and mortality in this patient group
- consider list order to avoid prolonged starvation times and enabling medications to be given on time
- be aware of conditions that often coexist with frailty, such as delirium and ensure adherence to guidelines for prevention and management of delirium *(practical resource X)*
- facilitate the presence of a relative or carer in the anaesthetic room and/or post anaesthetic recovery area for patients with sensory and/or cognitive impairment when appropriate
- clarify post-operative care requirements and the appropriate setting (level 1,2,3), prior to and at the end of surgery, according to pre- and post-operative risk assessment and in accordance with the patient's wishes and advanced care plan
- discuss frailty at the WHO team briefing
- avoid the use of unnecessary urethral catheters to reduce the risk of a hospital acquired catheter related urinary tract infection. Where this cannot be avoided the catheter should be removed as soon as possible
- employ strategies for moving and positioning the patient based upon their specific frailties. This might include the adoption of novel positioning techniques which protect impaired musculoskeletal and integumentary systems.
    - lifting in preference to sliding patients
    - use of gel type pressuring relieving supports to help secure a specific posture[16] and care to avoid movements outside of an individual's normal range of motion
    - application of soft padding or cotton wool bandages to the potential pressure areas
- ensure physiological homeostasis intraoperatively, with strategies to maintain normothermia, targeting MABP within 20% pre-operative range, consider use of depth of anaesthesia monitoring and regional anaesthesia techniques where appropriate to reduce postoperative opioid use
- ensure patients have access to dentures and sensory aids in recovery
- document the acceptable parameters or individualised recovery discharge criteria prior to discharge and handover to ward.
    - assess, document and treat pain utilising relevant scoring system such as the Abbey pain scale for patients with cognitive impairment. Consider opioid sparing analgesia and avoidance of NSAIDs where possible

[16] https://aneticaid.com/product-category/operating-table-accessories/pressure-relieving-gel-supports/
https://xodusmedical.com/ProductCategory/ProlongedPositioning

- document a postoperative management plan for pain which should be cogniscent of the relationships between frailty, cognitive impairment, pain, analgesics and delirium

Recommendations for transfer of care to the community

Teams working in postoperative wards should ensure provision of timely (day of discharge) written discharge documentation to the patient and GP to include:

- surgical diagnosis and procedure
- new diagnoses made
- in-hospital complications (medical, surgical and functional)
- any significant functional or cognitive change (including episode of delirium and advice to seek review if it fails to resolve)
- changes made to medications during the hospital stay (patients who may benefit from extra guidance about newly prescribed medicines should be referred to the Discharge Medicines Service)
- signposting and/or referral to relevant services and follow up plans (e.g. referral to community therapy, dietetics, district nurse, medical clinic, delirium follow up clinic, interval imaging, surgical out patients)
- signposting and/or referral to third sector organisations where appropriate
- details on who to contact for advice regards post-surgical issues, medication queries and future management
- patient education to promote long-term healthy behaviours
- treatment escalation and advance care plans

Recommendations for quality improvement and metrics

The clinical lead for (perioperative) frailty should support implementation of this guideline, through local quality improvement programmes. This will require:

- patient and public involvement in co-design/co-production
- identification of local key performance indicators based on the metrics below
- collaboration with local data analysts/informatics to support robust data collection (ideally through linkage with existing datasets, for example Getting it Right First Time, Perioperative Quality Improvement Programme, National Hip Fracture Database, National Emergency Laparotomy Audit)
- local measurement using a time series approach (eg statistical process control charts)
- local collaborative, interdisciplinary audit/morbidity/mortality meetings to review the data and inform quality improvement programmes

To support measurement for improvement for patients aged over 65 years admitted to surgical areas, the following metrics may be used:

Metrics to support development of clinical pathway

- Number/proportion of patients with documentation of frailty

- Number/proportion of patients with frailty referred to perioperative frailty services (e.g. POPS)[17]for Comprehensive Geriatric Assessment and optimisation (CGA) or pharmacy services
- Number/proportion of patients with frailty, in whom a non-operative approach is taken, who are referred to perioperative frailty services (e.g. POPS) or palliative care for ongoing conservative treatment
- Number/proportion of patients with frailty with an assessment of cognition documented using a validated tool prior to surgery
- Number/proportion of patients living with frailty who have documentation of shared decision making
- Number/proportion of patients living with frailty who have documentation of treatment escalation plans and advance care plans

Metrics to measure process

- Hospital guideline for prevention and management of delirium applicable to the perioperative setting
- Length of hospital stay in patients with CFS≥5
- Percentage of patients with LOS > 21 days with CFS>5 (superstranded)
- Place of discharge from hospital
- 30 day readmissions in patients with CFS≥5

Metrics to measure patient reported outcomes

- Decisional regret
- Satisfaction with shared decision making (e.g. using SDMQ9)
- Quality of life measures such as EQ-5D-5L
- Days alive and out of hospital

Metrics to support workforce development

- Availability of a perioperative frailty team such as Perioperative medicine for Older People undergoing Surgery (POPS) team
- Number/proportion of staff working with patients living with frailty who have completed tier1, 2 or 3 training

Recommendations for Research

- What is the clinical and cost effectiveness of perioperative frailty services (e.g. POPS) in the elective and/or emergency surgical setting (excluding orthogeriatrics)?
- What is the experience for patients living with frailty of:
    - undergoing preoperative CGA based intervention for frailty?
    - perioperative shared decision making?
    - undergoing emergency and/or elective surgery?

[17] POPS

    - the impact of surgery on longer term functional and psychological recovery?
    - decisional conflict and regret (having surgery or deciding not to have surgery)?
  - How can we improve quality of perioperative consultation for patients living with frailty?

- What are the barriers to implementing frailty services on a national scale (examining feasibility, acceptability, uptake, fidelity)?
- Do perioperative outcomes for patients living with frailty and multimorbidity differ and how should this inform service development?
- Can we develop decision aid tools for patients living with frailty undergoing surgery?
- What is the skillset required for teams providing perioperative care for people living with frailty?
- How can we improve transitions of care from one healthcare environment to another in the perioperative pathway?

Practical Resources

Practical Resource 1- How to take a collateral History

Practical Resource 2- London Clinical frailty education programme

https://www.e-lfh.org.uk/programmes/frailty/

Practical Resource 3- Anticholinergic Burden

Practical Resource 4 – Clinical Frailty Scale- preventing deconditioning

https://www.scfn.org.uk/clinical-frailty-scale

FICM- Faculty will have Life after Critical Illness coming out shortly which will be helpful for SDM conversations.

Also EOL guidance has some helpful stuff on managing health/care when declining an intervention

- Case studies of units delivering frailty/CGA based perioperative services- add Musgrave Park delirium pathway and toolkit as example

- NICE aide memoire [REF is: https://stpsupport.nice.org.uk/frailty/index.html]: NICE guidance recommends the British Geriatric Society's Fit for Frailty model. This involves the following steps, which together spell FRAIL:

Find - Recognise frailty in a person

Assess – a multidisciplinary assessment involving a geriatrician, allied health professionals, specialist nurses, and mental health and social work teams. The aim is to identify and manage long-term health conditions, identify goals and develop a personalised care and support plan.

Intervene – for example, a falls risk assessment and a multimorbidity review.

Long-term

All of the relevant links to various exercise/nutrition interventions etc

TABLE 'Frailty domain – Assessment – modification'

This table divides frailty areas into of focus for key interventions. It should be noted that a number require specialist referral and workforce models should be funded to allow this. There is a danger of silo-thinking if the lack of trained workforce prevents essential care being given. Alongside every aspect are other simple interventions, that can be delivered by other members of the team.

From the GIRFT perspective we are recommending the Sills for Health Frailty Capabilities Framework (e learning just released) level 1 training for all staff

Maybe need to think about this and whether adequately covered already

You may wish to put this higher up in this section A focus on frailty is very important for several reasons:

Frailty Pathway Infographic with following headings

Referral

Elective - referral form to include eFI or CFS

Emergency –clerking form to document eFI or CFS

Preoperative screening and case finding

Elective and emergency – CFS>4 – proceed to EFS (essential) or CGA (desirable)

Elective and emergency – EFS6+ proceed to CGA

Preoperative assessment and optimisation

Elective – CGA based clinic (personnel can be from variety of backgrounds)

Emergency – ward based CGA – as above

Consideration of polypharmacy in this group of patients. Where necessary ask for a pharmacist review and advice for optimising medication for perioperative care[18]

Add in table

Incorporate assessment and optimisation of

- Physiological status
- Functional status
- Nutrition and hydration status
- Multimorbidity
- Cognition
- Mood/psychological status
- Social and environmental situation
- ?Medications as a separate point or is this included under multimorbidity?
- Delirium risk or is this included in cognition?

Prognostication using frailty assessment

SDM

Use a Choosing Wisely approach (BRAN)

Treatment escalation plans

Advance care planning

Discharge planning

Communication across teams, patients and family/carers –

[18] Polypharmacy and medicines optimisation – Making it safe and sound The King's Fund 2013

Planning

If not proceeding to surgery – specify alternative treatments, ACP, ongoing surveillance, follow up

If surgery planned – day case, inpatient, timing, specification of place of postop care

Proactive discharge planning – MDT (community)

Also respite care – supporting those undergoing surgery with respite for those they care for as can be significant barrier to expediting surgery

In theatre

Thermoregulation

Pressure areas

Use of strategies to prevent delirium

Postoperative

Use of bundles

- Delirium
- Falls
- Nutrition and hydration
- Common postop comps (AKI, ACS, HAP)

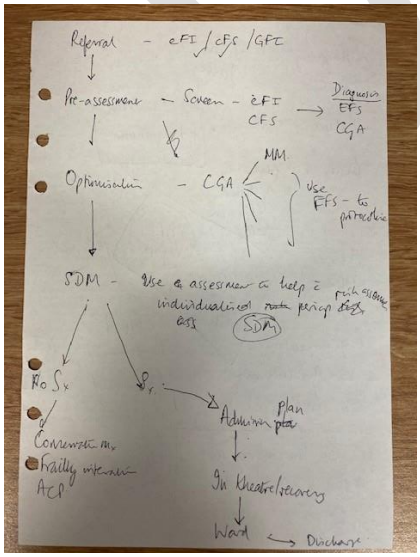
Avoidance of urinary catheters/management of continence

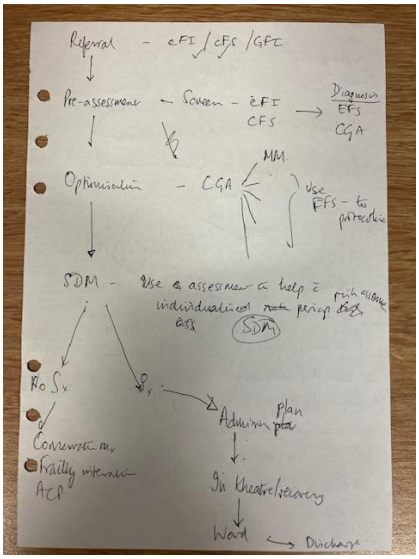
Avoidance of pressure ulcers

Avoiding deconditioning in line with ERAS programmes

Discharge planning – this should also happen pre-operatively

Signposting to community services





If CFS score 5 or more -------CFS

If CFS score 1-4 ---------- (Universal pre-operative optimisation)

- ***support shared decision making through use of tools such as BRAN (Choosing Wisely) in the perioperative setting, acknowledging that this is an iterative process undertaken throughout the pathway (NOTE needs to be in infographic)***

Table 1 Frailty Intervention Tool

FRAILTY DOMAIN	ASSESSMENT	INTERVENTION
Cognition	History/collateral history Use tools for objective assessment including 4AT Clock (as part of EFS), mini-Cog, MoCA Assess risk of delirium by considering predisposing factors (age/dementia etc) or precipitating factors (pain/infection/emergency surgery etc) *(practical resource X)* Formulate differential diagnosis Assessment of capacity specific to the decision	Vascular risk factor optimisation Modify risk of delirium *(practical resource X)* Consider referral to memory services Information provision to patient and carer to include diagnosis of cognitive impairment/dementia Provision of patient and carer information about delirium *(practical resource X)*
Activities of daily living	History/collateral history Nottingham Extended Activities of Daily Living (NEADL) Barthel	Address care needs Consider referral to occupational therapist Consider referral to social worker
Physiological/functional status	Self-reported exercise tolerance Gait velocity TUAG 6MWT Consider CPET	Discuss strategies to improve physical activity The UK Chief Medical Officers have recommended daily exercise for very frail people: 'reducing sedentary behaviour, engaging in regular sit-to-stand exercise and short walks, stair climbing, embedding strength and balance activities into everyday life tasks, and increasing the duration of walking'. Consider referral for exercise therapy/prehabilitation programmes Consider referral for physiotherapy and/or occupational therapy

Medication use	History/collateral history Number of medications Concordance with medication	Review/rationalise medications STOPP/START Consider anticholinergic burden Consider provision of monitored dosage system Consider carer to prompt medication use
Nutrition	History/collateral history Use a validated nutritional screening tool such as: the Patients Association Nutrition Checklist, Malnutrition Universal Screening tool (these consider Body Mass Index, Unintentional Weight Loss and Appetite). *(Practical resource X)*[19]	Assess and address oral health including dentition Consider referral to speech and language therapy if there are swallowing concerns Advise on optimal nutritional intake, including adequate protein and fluids. Consider referral to dietitian - to support with optimising nutrition and hydration status in those at risk of malnutrition, Consider referral to NHS tiered care weight management pathways acknowledging importance of preserving muscle Consider referral to occupational therapy if unable to manage shopping and/or meal preparation
Mood	History/collateral history Self-reported low mood Hospital Anxiety and Depression Score (HADS) Geriatric Depression Scale (GDS) Formulate differential diagnosis *(practical resource X)*	Psychological preparation for surgery Liaise with primary care Consider referral to Improving Access to Psychological Therapies (IAPT) Consider referral to specialist psychiatric services Consider referral to voluntary sector services

[19] https://onlinelibrary.wiley.com/doi/epdf/10.1002/jcsm.12383

Continence	History/collateral history Self-reported urinary/faecal incontinence Post Void Residual Volume (PVRV) Formulate differential diagnosis	Consider bladder training regimes and pelvic floor exercises If medications are considered, need to be balanced against anticholinergic burden Consider referral to continence services Encourage fluid intake unless there is a clinical condition requiring a different approach *(practical resource X)*[20]
Social support	History/collateral history Lubben Social Network Scale 6 *(practical resource X)*	Consider referral to social worker or occupational therapist for therapeutic interventions Arrange formal and voluntary sector support
Overlapping syndromes		
Multimorbidity	History/collateral history/examination CGA approach to proactive diagnosis of previously unrecognised conditions Formulate list of diagnoses	Formulate an optimisation plan for preoperative/perioperative and long term management of each condition Refer to relevant national guidelines for example CPOC diabetes, AAGBI/BHF hypertension, AAGBI dementia[21]
Sarcopenia	History/collateral history/examination SARC-F Review cross sectional imaging where available Stand up/sit down test Gait speed	Consider contributing factors (e.g. physical activity and nutrition) Employ exercise strategies Utilise appropriate nutritional strategies including optimising protein intake and improving nutritional status, consider referral to a dietitian

[20] Volkert, D., Beck, A. M., Cederholm, T., Cruz-Jentoft, A., Goisser, S., Hooper, L., ... & Bischoff, S. C. (2019). ESPEN guideline on clinical nutrition and hydration in geriatrics. Clinical nutrition, 38(1), 10-47. https://www.espen.org/files/ESPEN-Guidelines/ESPEN_guideline_on_clincal_nutrition_and_hydration_in_geriatrics.pdf

[21]

Falls	Falls risk assessment *(practical resource X)*	Review medications Refer for muscle and balance exercise programmes Refer for occupational therapy interventions for review of function, behaviour related activities and home environment. Consider need for podiatry and orthotics Address bone health, and optimise nutrition and hydration status to improve the effectiveness of exercise programmes, *(practical resource X)*[22]

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Fernando Fuertes-Guiró & Eduardo Viteri Velasco (2020) The impact of frailty on the economic evaluation of geriatric surgery: hospital costs and opportunity costs based on meta-analysis, Journal of Medical Economics, 23:8, 819-830, DOI: 10.1080/13696998.2020.1764965)

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with readily identifiable frailty predicting prolonged inpatient stays (Fernando Fuertes-Guiró & Eduardo Viteri Velasco (2020)) and in some cases extreme costs (Goldfarb M et al., 2017).