



RCSI



SURGICAL HUBS CLINICAL GUIDANCE



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1. Background

The implementation of six Health Regions (HRs) provides an opportunity to review current structures for the provision of surgical care. Additional capacity for surgery through the establishment of surgical hubs is welcome, but it is acknowledged that any new capacity must be sustainable, adequately staffed and should be aligned with broader reform in scheduled care, including elective hospitals and the perioperative pathway enhancement programme. The consultant workforce providing scheduled surgical care also delivers the majority of unscheduled care, so it is important to ensure that new surgical services are appropriately planned and integrated with existing services and aligned with reform in unscheduled care. The primary purpose of surgical hubs is to enhance capacity, in order to address waiting list pressures. To ensure a model that has appropriate governance and integration within each region, important considerations include:

1. The necessity for hubs to be situated on sites that support future geographic alignment with the HR structures to ensure a population-based allocation and equitable access to care in every region.
2. The purpose of the hubs should be clearly defined to ensure optimal use while continuing to support activity in current hospitals performing elective activities.
3. The work which has commenced as part of the perioperative pathway enhancement programme, is focused on optimisation of current capacity. We must ensure that the establishment of surgical hubs enhances the goals and objectives of this process and is aligned with the best practice framework to support efficient use of new operating theatre capacity.

Local governance and ownership of surgical hubs is key. Principles to support the design of the clinical service will be identified by the Elective Surgical Hubs Clinical Design Group (ESHCDG). The terms of reference and timeline of the ESHCDG is outlined in Appendix 1. The required timeframe for completion of this work precluded extensive stakeholder consultation. Recommendations of the ESHCDG regarding necessary future actions are outlined in section 25.

2. Defining a Surgical Hub

A surgical hub is a ring-fenced surgical facility containing operating theatres, treatment rooms, beds and other services necessary to deliver ambulatory, minor and day case procedures. **The primary purpose of surgical hubs is to enhance day case surgery and ambulatory capacity in order to address waiting list pressures.** It is noted that surgical hubs will have the capacity to rapidly work through existing waiting lists. It is therefore important to ensure that new patient pathways are put in place at the same time to ensure a sufficient flow of patients to the surgical hub. Each hub must commence development of such pathways immediately to ensure new surgical hub infrastructure is optimally used. The hubs will aim to provide patient satisfaction with timely and well-delivered treatments. The scope of procedures suitable to be performed in each surgical hub will vary, but includes those previously considered suitable by the elective hospitals surgical directorate workstream as outlined in Appendix 2.

3. Agreed Taxonomy of Surgical Hub Infrastructure

1. Day case operating theatre and anaesthetic room

Suitable for performing day case operations requiring administration of regional or general anaesthesia.

2. Minor operations room

Suitable for performing day case operations requiring administration of local anaesthesia or other procedures (e.g. joint injections), usually in the patient's own clothes.

3. Outpatient treatment room

Suitable for performing ambulatory procedures that do not require recovery time, in the patient's own clothes.

4. Outpatient diagnostic room/consultation room

Suitable for performing virtual or face-to-face outpatient consultations.

4. Underlying Philosophy of Care

Surgical hubs are designed to deliver high-volume, low-complexity care to ambulatory and day case patients. Perioperative care contributes significantly to the carbon footprint of healthcare. In order to better meet the needs of the population as a whole, there is a need to increase efficiency, to avoid waste and to deliver healthcare in a more sustainable way. Sustainability must take into account value for money but also seek to minimize the impacts of perioperative care on the environment.

There is an important balance to be found between assuring patient safety while also avoiding delays in the flow of patients into and through the surgical hub and reducing waste. Patients should be treated in the lowest complexity environment that will safely meet their needs. One source of waste is requiring patients to change into hospital gowns. As well as requiring patients to spend more time in hospital than necessary, there are concerns that it reduces patient autonomy and dignity. It also increases the complexity of 'processing' and flow, occupies valuable nursing and support staff time, and increases consumable and floor space waste. To the maximum extent, patient autonomy should be supported by enabling patients to wear their own clothes.

Day case operating theatres with an anaesthetic room should be used mainly for day case operations that require administration of regional or general anaesthesia. Patients will normally require hospital gowns in this environment and will usually need a two-stage recovery.

Minor operations rooms should be strongly considered to be suitable for performing day case operations under local anaesthesia (and in some cases, anaesthetic blocks) and they are also suitable for other sterile procedures (such as joint injections). Patients can almost always wear their own clothes but may require a period of rest/recovery after such procedures.

Outpatient treatment rooms are suitable for performing ambulatory procedures (such as nasoendoscopy or cystoscopy) that do not normally require recovery time, in the patient's own clothes.

Even in the setting of the **outpatient diagnostic room/consultation room**, waste can be avoided by considering whether it is essential to require the patient to attend in person, offering virtual consultation options where this is safe practice.

5. Early Engagement with Local Stakeholders

Operationalising off-site surgical hubs will require local planning, management and ownership. It is recommended that all relevant stakeholders are convened by each Model 4 hospital responsible for a surgical hub. The clinical risk of off-site surgical practice must be carefully managed. Aside from the theatre team itself, this requires the input from all standard hospital services including, but not limited to; CSSD, radiology, infection control, medical records and administration, health and safety, patient advocacy and liaison services, IT services and relevant health care professionals. Use of existing services is key to the rapid development of surgical hubs. Each hospital group already has considerable expertise in running operating theatre departments. Integration of additional operating theatre capacity in surgical hubs with existing regional services is essential.

6. Sustainability

The HSE recently launched its Climate Action Strategy 2023 – 2050 (1), which states that it *'is committed to achieving net-zero emissions no later than 2050, delivering healthcare which is environmentally and socially sustainable'*. Operating theatres, in particular, have a disproportionate environmental impact because of their energy-intensive processes, consumption of resources, use of volatile anaesthetic agents and production of waste. They are estimated to be three to six times more energy intensive than clinical wards and tend to produce approximately 50–70% of the total hospital waste (1).

The HSE document outlines the need to establish 'Green Theatres'. These promote improved recycling and waste practices, reduction of single use products where feasible and best practice for energy and resource efficiency (e.g., turn off equipment such as ventilation, scavenging and lighting when theatres are not in use). It also seeks to reduce the CO₂ emissions from inhalational anaesthetic agents by 50% by 2030.

The Royal College of Surgeons in England published a document in May 2022 entitled *'SUSTAINABILITY IN THE OPERATING THEATRE - A guide to good practice'* (2). This is a very useful reference document for those designing the surgical hubs. Please find a link to this document [here](#).

7. Surgical Hub Infrastructure and Utilisation

The infrastructural design is largely outside the remit of the clinical design group but due to important overlaps between surgical hub infrastructure and optimal utilisation, a number of issues flagged by the members of the clinical design team are collated here.

Lead Shielding

Lead shielding to enable the use of ionising radiation for intra-operative imaging should be the norm in all operating theatres and minor theatres. The necessity may vary with case-mix at each surgical hub site but there is a widespread and increasing need for imaging in most specialties. Additionally, the optimal use of the surgical hub infrastructure is likely to evolve over time, as the waiting list 'burn-off' progresses. Maximum flexibility of use will exist, if all the rooms are suitable for the use of ionising radiation.

Theatre Size

The increasing range of equipment required in surgery, and especially the use of robotics and intra-operative imaging, requires larger operating theatres than previously the norm. The operating theatres require integrated ceiling mounted screens to maximise floor space. Adequate storage space within the operating theatre is necessary to avoid damage to expensive equipment, especially image guidance systems, robotics and scopes.

Storage and Waste

A sufficient general storage area is required. Given the rapid turnover of cases planned in surgical hubs which is estimated at 6-7 Day Cases per theatre, and 18-20 minor ops per theatre per day, more supplies are used each day than in existing theatres. This includes large volumes of disposable equipment, sterile supplies and sets. By way of example, a study in Cork University Hospital (CUH) in preparation for a new building indicated the need for storage space of 35m² for each operating theatre. Failure to adequately provide for storage will increase transportation requirements to the hub, reduce case turnover and increase repair costs due to potential damage to expensive specialist equipment. It should also be noted that the large numbers of patients attending hubs each week, in the absence of electronic patient records and a national unique patient identifier, will each require their medical record to be available at the time of their procedure. This will require large amounts of secure storage. The NHS has produced a guidance document (3) which outlines the facilities for in-patient operating theatres in acute general hospitals. Click [here](#) for link. (This document refers to HFN 29 – "Materials management (supply, storage and distribution) in healthcare facilities" and HTM 71 – "Materials management modular storage")

CSSD

The relationship between the hub and the Central Sterile Services Department (CSSD) is a key enabler in the success of the hub, both to ensure patient safety from an infection control perspective but also to ensure the availability of a wide range of sterile supplies, instruments and equipment. A key initial step in hub development will be to establish, depending on specialty, the necessary additional equipment needed and to determine if there will be an in-house CSSD department, utilisation of the affiliated Model 4 hospital CSSD services (which will need additional resources and/or extended opening) or whether CSSD will be outsourced. These arrangements will need to be made locally but should be flagged and addressed early in the development phase. Arrangements for scope processing, either on-site or off-site, is also required, noting the large number of scopes that will be required for ambulatory diagnostic services like ENT and urology, among others.

Safety in Emergencies

Emergency escalation of care should be a very rare event in a standalone ambulatory unit. All infrastructure should be designed to ensure that a ventilated patient in a bed and accompanying staff members can move efficiently to an ambulance bay, in case of a need to transfer a critically ill person. This needs to be possible in every part of the building. Resuscitation trolleys should be easily accessible in all clinical areas. Written escalation and approved protocols should be in place in each hub.

Avoidance of Mixed Use of Surgical Hubs

The Clinical Design Group strongly advise against the mixed use of surgical hubs to deliver general OPD services, aside from those that are essential to the running of the surgical hub (e.g. pre-assessment) and 'virtual' clinics. Excess footfall and congestion would interfere with the delivery of a streamlined surgical service and could place patients recovering from sedation and anaesthesia at risk. The principal use of outpatient consultation rooms should be for pre-assessment visits and other procedure focussed consultations necessary to the smooth running of the surgical hub. Consultation rooms should be designed to optimally support virtual and face-to-face consultation. Ensuring that all consultation rooms fully support virtual clinics will reduce unnecessary travel for patients and will enable optimal use of the new infrastructure.

It is noted that the surgical hub outline design includes some undesignated space that will be suitable for future development in keeping with the needs of each region.

8.0 Clinical Governance

Clinical governance is essential to the safe operation of surgical hubs and to ensure that the new capacity is used to its maximum potential.

Integration of Scheduled Surgical Services

The introduction of HRs creates an opportunity for greater integration of scheduled surgical services across each region. **Each hospital group or Health Region should consider the optimum structures for delivery of scheduled surgical services in its region, in keeping with local demand, capacity, infrastructure and geography.** An efficient surgical hub may drive more referrals centrally where a more streamlined service is seen to be available. There is a risk therefore, that greater centralisation will result. In particular, it is important that hospital groups/HRs protect all existing surgical capacity in existing Model 2 and Model 3 hospitals so that the surgical hubs provide additional capacity to meet the high levels of demand.

Clinical Governance Options for Surgical Hubs

- 1) ***Clinical governance through a designated Model 4 hospital. Each hub functions like an additional theatre block***

Pros	Cons
Already established structures, clarity of employment and governance status	Time to resource, demands on existing staff
Quicker to implement	Governance pathways required to support referral outside of Model 4
Valuable addition to Model 4 resources	How do other hospitals/community access services? Risk of inequitable access to patients of other hospitals

- 2) ***Surgical Hub has 'standalone' clinical governance – e.g. Cappagh model***

Pros	Cons
Clear governance for patients being referred from various sites in HR	Longer to implement, contract changes may be needed and there is some replication of existing roles
Equitable access for sites and HR	Patient pathway and follow-up difficulties, multiple routes to all referring hospitals

- 3) ***New shared governance model - all referring services represented as equal partners***

Pros	Cons
Easier equity of access for sites	Need clear definition of how this would work, especially for voluntary and HSE hospitals
Valuable addition to HR resources, building block for HR reforms	Requires integration of services and clear communication strategy

It is likely that a phased approach will be required to accommodate transition to HRs in different regions.

The press release dated 26th May 2023 indicating a DoH recommendation that each hub should be under the clinical governance of a designated Model 4 hospital is noted and used as the basis for the following recommendations, especially taking into consideration risks associated with this option. See link [here](#) (4).

Clinical Governance Considerations prior to Full Implementation of HR Structures

Experience in Ireland and abroad suggests that ‘burn-off’ of appropriate cases from the Model 4 waiting list will happen rapidly after opening a surgical hub. While the excess waiting lists pertaining to the six Model 4 hospitals operating a hub are projected to improve within 6-12 months, long waiting times will remain for other Model 3 and Model 4 hospitals. This issue will be easier to address when HRs are fully implemented, as the surgical hub and all staff will become regional resources and care pathways across the region can be appropriately directed through a central referral process to the surgical hub. It is recognised that prior to the establishment of HRs, patient flow from one hospital to another may be more challenging.

In the interim, the Clinical Design Group has considered a number of options to improve access and increase utilisation of the surgical hubs in the short-term:

OPTION 1

Allocating theatre sessions to surgeons from other hospitals was considered. A principal advantage of this is that it safeguards the surgeon/patient relationship which is considered to be highly desirable by all clinical leaders in the clinical design group. Additionally, it increases the pool of surgeons and the range of specialties available to the surgical hub. From a clinical governance perspective, however, it is problematic if ‘visiting’ surgeons do not report to the local clinical director, especially from the perspective of risk management and clinical incidents. This could be addressed by introduction of a sessional commitment to the hub using existing joint appointment frameworks. While this is the optimal strategy in the long-term, and will be resolved for new Sláintecare contract holders, contract change takes time and is unlikely to happen at a sufficient rate to fully utilise the capacity of surgical hubs within 12-18 months. There is a risk of incomplete utilisation of the hub in the short- to medium term.

OPTION 2

Service level agreements between the hubs and other hospitals is a second option. The host Model 4 hospital could enter into one or more service level agreements with other hospitals. In this option, the fully staffed hub could be ‘leased’ to another hospital that would be responsible for its own patients and staff. The surgical and anaesthesiology team would move to the hub for each list, pre-assess their own patients and maintain all responsibilities for the procedure and any other continuing care. Maintaining high-volume activity may be challenging due to the variable staffing, reduction in the speed of acquisition of ‘organisational memory’ and disruption due to daily variation in surgical staff for ‘hub staff’ (e.g. nurses, porters, etc.). Accountability for service delivery is likely to be more difficult using existing coding systems, where the activity is coded by location. There may also be challenges in administration, bearing in mind the absence of a national unique patient identifier or electronic medical record at present. Finally, the financial model is more complex, especially given the variable costs of disposable equipment and implants. This may be an option suitable for specific specialties or lists but is likely to take time to implement and stabilise. There is a risk of incomplete utilisation of the hub in the short to medium term.

OPTION 3

A third option is to consider the current National Treatment Purchase Fund (NTPF) model as a template, whereby patients on waiting lists are centrally managed to ensure equity of access and waiting times. Using this model, the NTPF could be tasked with directing the flow of waiting list patients external to the ‘host’ Model 4 hospital to each surgical hub as a short-term measure, pending full implementation of the HR structures in each region. This will ensure equity of access for patients to surgical hub infrastructure, irrespective of their location or hospital of origin, using a well-established, quality-assured system. It also ensures that hubs would be fully utilised while protecting access. It allows each surgical hub to build surgical staff in an incremental way as the number of Sláintecare contract holder’s increases while ensuring that hubs are fully utilised immediately.

CONSENSUS

Having reviewed the options above, and bearing in mind the Minister’s decision that each new surgical hub should be assigned to a Model 4 hospital, the Elective Surgical Hubs Clinical Design Group favour option 3 as an interim short-term measure working towards Option 1 as the long-term option. This will ensure an equitable, efficient and sustained flow of waiting list patients to the surgical hub immediately, but then a return to safeguarding the surgeon/patient relationship which is the standard of care and considered to be highly desirable by all clinical leaders. Use of the processes and structures already

established by the NTPF will enable the immediate and sustained use of the surgical hub infrastructure and may also assist in addressing anticipated workforce challenges by enabling additional consultant sessions to be made available. It will also enable value for money with clarity regarding the delivered caseload for the investments made. In parallel, new pathways and staffing arrangements should be implemented as a priority to ensure surgical hubs can operate independently at the earliest possible time.

All governance arrangements need to include nursing, surgical, anaesthesiology, administration, portering, CCSD, laboratory and housekeeping staff. The surgical hub and its staff should, at the outset, be under the same clinical governance as the Model 4 hospital's surgical or perioperative directorate.

9.0 Referral Pathways to a Surgical Hub

- a. To commence immediately
 - i. Validation and referral of all patients on waiting list of 'host' Model 4 in chronological order
 - ii. Validation and referral of all patients on waiting list of 'non-host' hospitals in chronological order, coordinated by NTPF
- b. To commence at earliest possible time
 - i. Direct referral and booking from OPD to pooled specialty waiting lists in designated surgical hub for agreed surgical hub activities
 - ii. Triage of general referrals from primary care to stream relevant outpatient diagnostic activities to the surgical hub (e.g. direct access cystoscopy)
 - iii. Direct booking from primary care to the surgical hub for '*See and Treat*' clinics and certain other diagnostic procedures depending on local services
 - iv. Direct referral of certain 'cold' trauma conditions (orthopaedics/plastics) from emergency department or virtual fracture clinics
- c. Other referral pathways by local arrangements

10.0 Pre-assessment for Surgical Hubs

Safe and streamlined pre-assessment is key to the efficiency of the surgical hubs. All preparatory work required by the patient should be complete before the time of admission.

At the time of referral to the surgical hub, the pre-assessment needs of the patient should be determined, and the referral letter or booking pro-forma must give sufficient information to enable either administrative pre-admission, or nurse-led pre-assessment and pre-admission as appropriate. A decision-support matrix should be available to assist staff, as these decisions will vary with patient and procedural complexity.

In addition to the global workforce shortages among nursing, surgical and anaesthetic staff, it is recognised that there is a different cost base among various roles. Bearing in mind the large number of patients who will be treated in surgical hubs, the majority of whom will attend for low complexity interventions, technical solutions should be strongly considered as the first line assessment. While bespoke integrated IT developments are beyond the capability and budget of hospitals, standalone commercially available products (applications) may be suitable and the group recommend that they are considered for use on a national basis.

It is advised that all patients undergoing a planned procedure should have some form of pre-assessment approximately 2 weeks in advance of their planned procedure date. This reduces the risk of patient cancellation enabling, for example, discontinuation of medications like anticoagulants in good time.

The method for pre-assessing should reflect the complexity of the procedure and the ASA status of the patient. The majority of ASA 1 or 2 patients can be virtually pre-assessed. Patients could provide information through an algorithm of questions and streamed to a pre-admission process by either administrative or nursing staff, depending on their needs. Reducing the number of patients who are unnecessarily pre-assessed by a clinician will reduce costs and demands placed on the workforce, enabling nursing staff to work at the top of their license and reducing a potential constraint in the referral pathway.

The pre-assessment process for every patient should be at a level appropriate to the proposed intervention and the patient's needs, using an agreed decision-making matrix:

- a) Mobile technology-enabled pre-admission and checklist for all patients, with no additional pre-assessment for those undergoing minor procedures
- b) Nurse-led or PA-led virtual pre-assessment and pre-admission anaesthetic clinic
- c) Anaesthesiologist-led pre-assessment and pre-admission clinic

It is recognized that certain patient factors may mandate face-to-face pre-assessment visits.

11.0 Pre-admission

Administrative pre-admission should take place prior to patient arrival and patients should receive all necessary information at the time of pre-admission. Clinical pre-admission should take place at the time of pre-assessment. The full patient medical record is required at the time of booking, pre-admission and procedure. The booking and registration processes as well as the records and chart management for the large numbers of patients expected to attend surgical hubs will require dedicated and sufficient administrative support.

12.0 The Patient Chart

Standard information from the patient chart will need to be available at the surgical hub at the time of the procedure. This could be either the full physical chart, a summary or an electronic portal to software platform for any sites where the Model 4 hospital uses electronic records. For physical charts, there will need to be secure arrangements in place for transport, storage and return. Planning this process in advance and establishing a local Standardised Operating Procedure (SOP), will be vital for streamlining the patient flow through the hub but also for patient safety.

13.0 Patient Pathway for GA Procedures or a Regional Block in a Surgical Hub

Standardised documents or software templates should be used to the maximum extent possible to reduce duplication of efforts, with local adaptation as needed.

- a. Pre-assessment
- b. Standardised consent process
- c. Safe surgery checklist (appropriate to procedure location within hub)
- d. Process timestamps and metrics (e.g. Transforming Theatre timestamps, see appendix 3)
- e. Operation or procedure note
- f. Stage 1 recovery standards and discharge criteria
- g. Stage 2 recovery standards and discharge criteria
- h. Nurse-led discharge and discharge criteria
- i. Standardised discharge documents and prescription
- j. Removal of sutures or dressings arranged
- k. Follow-up arrangements for histology and other results (if necessary)
- l. Follow-up of patient by doctor or HSCP (if indicated)
- m. Community impact/primary care (initial discussion with NCAGL primary care; requires more work)

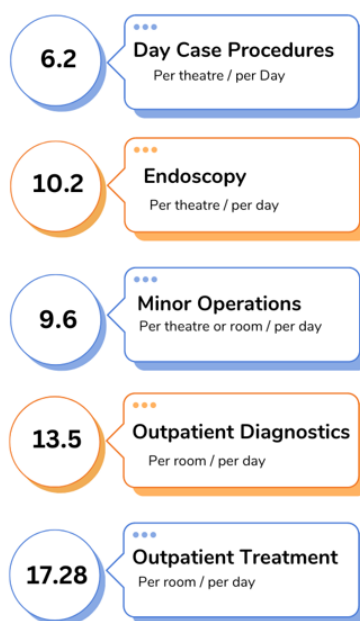
14.0 Patient Pathway for Other Procedures – e.g. minor ops, injections, etc.

Written patient pathways, similar to the above but simplified to accommodate lower intensity procedures, should be prepared.

15.0 Determining Surgical Hub Activity

Whilst it is important to standardise, as far as possible, the infrastructure, staffing roles and activity that will be carried out at the surgical hub, it is recognised that each may need to tailor their activity based on capacity and waiting lists, staff availability, selected case mix and specialties, equipment availability and the physical classification of patient selection. Cases determined to be suitable in an ambulatory/day surgical unit are outlined in Appendix 2. Work carried out by the EACC group have calculated the average number of procedures that can be carried out in the hubs per room/theatre per day. These figures will be useful for the hub design teams.

Figure 1: Working estimates of average number of various procedures that can be carried out per room or theatre per day based on lean workflow (Courtesy of Gerry Kelliher, Business Intelligence)



16.0 Written Escalation and Re-admission Protocols

The safe recovery of a patient requires ease of escalation to affiliated hospital(s). Otherwise, the maximum value of surgical hubs will not be achieved, as only the most simplistic cases will be undertaken. Each surgical hub should have a written escalation pathway for patients who are deemed unfit for discharge for any reason, approved by the responsible clinical director. Each patient should receive written instructions regarding where they should attend in the event of post-operative issues. The clinical director and hospital manager should assure themselves of the adequacy of emergency patient transport arrangements between the hub and the Model 4 hospital.

17.0 Histology Follow-up

A written protocol for follow-up of histology and other reports must be in place. In the absence of an alternate agreed hospital protocol, the consultant surgeon performing the procedure is responsible for the follow-up, communication and actions arising from histology and other results on their patient. The surgical hub should have a procedure in place to ensure that such results are available to the consultant and the GP in a timely fashion.

18.0 Follow-up Appointments

Protocols for nurse-led discharge should be in place. It is the responsibility of the nurse discharging the patient to ensure that appointments for removal of sutures, and follow-up visits (if any) is provided to the patient at the time of discharge whether that be with their GP or treating consultant.

19.0 Post Procedure Complications

Consultants and other clinicians undertaking procedures in a surgical hub are responsible for the ongoing care of the patient in all matters pertaining to that procedure, and in particular responsible for any complications arising following the procedure.

20.0 Perioperative Metrics

‘Standard practices’ in hospitals sometimes reduce productivity, as new facilities become embedded in ‘business as usual’. Maintaining theatre productivity in surgical hubs is critical to delivering on their potential. The Transforming Theatre Programme ‘timestamps’ embed principles of flow in normal work practices. The five timestamps track the patient journey through the theatre and generate actionable data to support improvement. If supplemented by a number of other key time points, the journey of the patient through the service can be captured (Figures 2 and 3).

Figure 2. Pre-attendance at the Surgical Hub - 3 date metrics

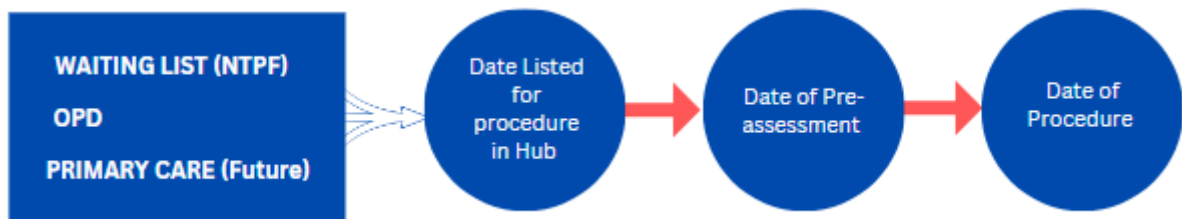


Figure 3. Surgical Hub Metrics – 11 timestamps



21.0 Key Performance Indicators

The following Key Performance Indicators (KPIs) for surgical hubs are recommended:

1. Unexpected admission/escalation of care to the Model 4 hospital for any reason
2. Re-admission after surgical hub procedure

Current data from HIPE on re-admission following a procedure has some challenges, especially as a patient may not re-present to the hospital where the procedure originally took place. Availability of a unique patient identifier is necessary for most accurate measurement. Until this is introduced it is important that current data is collected and analysed in so far as it is available.

3. Duration on waiting list for surgery

Thought to be a more valuable metric of improvement and equity of access, as opposed to gross numbers on the waiting list.

4. Time of initiation of first case of the day (surgery start time)

Important measure of losses due to late starts in the operating room or minor theatre

5. Perioperative enhancement pathway metrics

These are outlined in Appendix 3

6. % of unstaffed sessions was considered an important metric given the key staffing challenge in delivering on this initiative. The transforming theatre suite of metrics include available, possible, and used times.
7. % of all pre-assessment consultations taking place remotely/virtually

The above KPIs will be additional to those already defined for Surgery in the HSE.

22.0 National Steering Group

The surgical hubs Clinical Design Group recommends establishing a National Surgical Steering Group to support the implementation of the surgical hubs in Ireland. Their function would include but not be limited to, supporting standardisation of process and metrics, where possible, across the hubs, reviewing activity using NQAIS data and supporting shared learning. There is considerable variation across the health service in terms of utilisation of day case surgery and undoubtedly the proportion of certain operations, for example laparoscopic cholecystectomy, that can be treated as a day patient can be increased. The introduction of surgical hubs is an opportunity to move a greater percentage of certain cases towards day case procedures.

23.0 Patient Experience

The patient experience of the surgical hub is critical and needs to be captured. There is some work being carried out through HIQA on patient feedback following NTPF-funded treatments that might be utilised in the future. The HSE also has a 'Comments, Compliments and Complaints' structure that could be used. It may also be worthwhile to look at immediate patient experiences, such as a post-procedure survey or 'rate the experience' software as found in airports etc.

24.0 Shared Learning

Surgical hubs should collaborate and share learning from implementation and a network of hubs should be formed to share best practice. The timescale for opening different hubs will vary and a forum to share learning should be available as sites progress. The establishment of the Reeves Unit at Tallaght University Hospital is a good basis from which to share learning. Patient pathways and escalation in the event of emergency protocols have already been established and will serve as useful templates for sites. These are included in Appendices 4 and 5. Local Surgical Hub design teams may benefit from arranging visits to established centres such as Cappagh, Reeves or other sites used to high volume turnover to look at equipment, flow etc.

25.0 Areas where further development is recommended by surgical hubs clinical guidance group

National:

1. Agree and implement a time-limited referral protocol in collaboration with the NTPF that will ensure equitable patient access based on clinical need and chronology of waiting lists.
2. Agree and implement a time-limited NTPF funding model that supports care delivery and staffing to ensure that all spare capacity in surgical hubs is optimally utilized.
3. Consider input from HSE experts in environmental sustainability in the tender and purchasing of reusable and disposable equipment for surgical hubs so that environmental impact of decisions is considered.
4. Develop and implement a specialist and general workforce recruitment, retention and training plan.
5. Establish an appropriate national clinical group to develop a suite of nursing and patient-facing documentation/templates that can be adapted to meet local needs.
6. Liaise with primary care to ensure integration of surgical hub activity with community and development of standard discharge and other documents.
7. Convene a national surgical hubs clinical steering group to share learning, coordinate activity and review metrics.

Regional and Local Implementation Teams:

1. Establish surgical hub clinical implementation teams at each site and engage with all relevant stakeholders.
2. Determine specialty profile and case mix.
3. Determine associated equipment needs.
4. Determine specialist and general workforce requirements.
5. Evaluate and commence provision for additional CSSD provision.
6. Establish all administrative processes including local protocols for Patient Records.
7. Establish systems of transportation to and from the hub (e.g. for medical records, clean and dirty equipment including scopes, controlled drugs, etc.).
8. Commence development of clinical pathways that redirect patient flow to services suitable for delivery in surgical hubs.
9. Develop clinical pathways within surgical hub (see example Appendix 4).
10. Develop escalation pathway from hub (see example Appendix 5).

The Elective Surgical Hubs Clinical Design Group notes that IT and workforce sub-groups are already in place.

26.0 Document Governance

This document has been produced by the Elective Surgical Hubs Clinical Design Group. The membership, terms of reference and reporting relationships for this group are outlined in Appendix 1.

References

1. <https://www.hse.ie/eng/about/who/healthbusinessservices/national-health-sustainability-office/climate-change-and-health/hse-climate-action-strategy-2023-50.pdf>
2. <https://www.rcseng.ac.uk/standards-and-research/standards-and-guidance/good-practice-guides/sustainability-in-operating-theatre/>
3. https://www.england.nhs.uk/wp-content/uploads/2021/05/HBN_26.pdf
4. <https://www.gov.ie/en/press-release/f8923-minister-for-health-announces-site-locations-for-surgical-hub-projects-nationally/>

Appendices

Appendix 1 Elective Surgical Hubs Clinical Design Group Terms of Reference

1. Background:

The implementation of six Health Regions provides an opportunity to review current structures for the provision of surgical care. Additional capacity for surgery through the establishment of surgical hubs is welcome but it is acknowledged that any new capacity must be sustainable, be adequately staffed and should be aligned with broader reform in scheduled care, including elective hospitals and the perioperative pathway enhancement programme.

The primary purpose of surgical hubs is to enhance capacity, in particular to address waiting list pressures.

In order to ensure a model that has appropriate governance and integration within each region, important considerations include:

1. The necessity that hubs should be situated on sites that support future geographic alignment with the HR structures to ensure a population-based allocation and equitable access to care in every region.
2. The purpose of the hubs should be clearly defined to ensure optimal use while continuing to support activity in current hospitals performing elective activities.
3. The work which has commenced as part of the peri-operative pathway enhancement programme is focused on optimisation of current capacity. We must ensure that the establishment of surgical hubs enhances the goals and objectives of this process and is aligned with the best practice framework to support efficient use of new operating theatre capacity.

Local governance and ownership of surgical hubs is key. Through the Elective Surgical Hubs Clinical Design Group, principles to support design of the clinical service will be identified.

2. Scope of Work:

The Elective Surgical Hubs Clinical Design Group will produce a high-level document to support the timely implementation of surgical hubs to include:

1. Agreed taxonomy of surgical infrastructure
2. Proposed clinical governance arrangements for surgical hubs
3. An overview of the patient pathway for local adaptation and implementation for both GA/regional blocks and minor procedures
4. Proposed minimum dataset for key performance indicators
5. Training opportunities
6. Identification of opportunities for clinical innovation and reform
- 7.

3. Reporting Relationships:

CCO/National Director Acute Operations

Co-chairs:

Prof. Deborah McNamara

Prof. Frank Keane

Supported by: Ciara Hughes – NCPS Programme Manager**4. Membership:**

To include perioperative clinical representation from each existing hospital group and proposed hub site

Name	Title	Representing
<i>Vincent Young</i>	<i>Clinical Director of the SACC directorate</i>	<i>St James</i>
<i>Mark Dolan</i>	<i>CD for Peri-Op</i>	<i>SSWHG/CUH</i>
<i>Paul Ridgway</i>	<i>Group Clinical Director</i>	<i>DML HG</i>
<i>Alan Hussey</i>	<i>Clinical Director for Perioperative</i>	<i>Saolta HG</i>
<i>Brian Lenehan</i>	<i>Chief Clinical Director</i>	<i>ULHG</i>
<i>Claire Tully</i>	<i>Operational Lead</i>	<i>UHW</i>
<i>Maria Creed</i>	<i>Operational Lead</i>	<i>UHW</i>
<i>Padraig Daly</i>	<i>Clinical Lead</i>	<i>UHW</i>
<i>David Donegan</i>	<i>Operational Lead</i>	<i>CUH</i>
<i>Darragh Hynes</i>	<i>Clinical Advisor Strategic Planning</i>	<i>MMUH</i>
<i>Stephen Sheehan</i>	<i>Clinical Director</i>	<i>IEHG</i>
<i>Michael Dockery</i>	<i>National Clinical Lead for Anaesthesia</i>	<i>NCPA</i>
<i>RCSI HG</i>	<i>No representative nominated</i>	<i>RCSI HG</i>

5. Dates of meetings:25th May 1pm, 31st May 8am, 7th June 8am**6. Agenda & Minutes:**

At least 24 hours in advance of a meeting, the following will be forwarded: Agenda / Actions / Brief Minutes of previous meeting. Any other documents/information to be considered at the meeting. If members wish to forward an agenda item, they must forward it to the PM at least 48 hours in advance.

7. Report on Activities of Surgical Hub Clinical Guidance Group

5/05/23	Nominees to the group sought by Mary Day, Acute Hospitals from each existing hospital group. Membership and representation of group approved by CCO
25/05/23	Meeting 1
31/05/23	Meeting 2
7/06/23	Meeting 3
30/06/23	Draft document circulated
05/07/23	Meeting 4 review of draft document
12/07/23	Final draft circulated to CCO/acute hospitals and group members

Appendix 2 List of Day Cases suitable for an Elective Surgery Hub

The HPO (Healthcare Pricing Office) and the HSE in Ireland use ICD 10 AM / ACHI procedure codes (International Classification of Diseases 10 Australia Modification / Australian Classification of Health Interventions).

Procedures as per EACC including Case type, Attire and Need			
Attire HA : Hospital Attire SC: Street Clothes			
Proc Name	Chr/Bed	Attire	Treatment Room Type
DAY CASE			
Adenoidectomy without tonsillectomy	Bed	HA	Day Case
Adjustment of anal seton	Bed	HA	Day Case
Admin agent into costotransverse joint	Bed	HA	Day Case
Admin anaes agent arnd brachial plexus	Chr	HA	Day Case
Admin anaes agent arnd cervical plexus	Bed	HA	Day Case
Admin anaes agent arnd pudendal nrv	Chr	HA	Day Case
Admin anaes arnd lumbar portion SNS	Bed	HA	Day Case
Admin anaes arnd occipital nerve	Chr	HA	Day Case
Admin anaes arnd paravert ccygl nrv	Bed	HA	Day Case
Admin anaes arnd paravert cervical nrv	Chr	HA	Day Case
Admin anaes arnd paravert lumbar nrv	Bed	HA	Day Case
Admin anaes arnd paravert nrv mult lvl	Bed	HA	Day Case
Admin anaes arnd paravert sacral nrv	Chr	HA	Day Case
Admin anaes arnd paravert thoracic nrv	Bed	HA	Day Case
Admin anaes arnd sciatic nrv	Bed	HA	Day Case
Admin anaes arnd spin accessory nerve	Chr	HA	Day Case
Admin anaes post prim rami spin nrv	Bed	HA	Day Case
Admin of botulinum toxin into vocal cord	Chr	HA	Day Case
Amputation of finger	Chr	SC	Day Case
Amputation supernumerary digit of hand	Chr	HA	Day Case
Arteriovenous anastomosis of upper limb	Chr	SC	Day Case
Arthro decomp subacrom space	Bed	HA	Day Case
Arthro exc meniscal margin/plica knee	Bed	HA	Day Case
Arthro meniscectomy knee, debride/plasty	Bed	HA	Day Case
Arthro R/O loose bd knee debride/plasty	Bed	HA	Day Case
Arthrodesis 1st metatarsophalangeal jt	Chr	HA	Day Case
Arthrodesis interphalangeal joint, hand	Chr	HA	Day Case
Arthrodesis metacarpophalangeal joint	Chr	HA	Day Case
Arthroscopic chondroplasty of knee	Bed	HA	Day Case
Arthroscopic debridement of knee	Bed	HA	Day Case
Arthroscopic debridement of shoulder	Bed	HA	Day Case
Arthroscopic meniscectomy of knee	Bed	HA	Day Case
Arthroscopic removal loose body of ankle	Bed	HA	Day Case
Arthroscopic repair of meniscus of knee	Bed	HA	Day Case

Arthroscopic trimming ligament of knee	Chr	HA	Day Case
Arthroscopy of knee	Bed	HA	Day Case
Arthroscopy of shoulder	Bed	HA	Day Case
Arthroscopy of wrist	Chr	HA	Day Case
Aspiration of ovarian cyst	Bed	HA	Day Case
Aspr & lav nasal sinus thru nat ostium	Chr	HA	Day Case
Biopsy of abdominal wall or umbilicus	Bed	HA	Day Case
Biopsy of anus	Chr	HA	Day Case
Biopsy of cervix	Chr	HA	Day Case
Biopsy of conjunctiva	Chr	SC	Day Case
Biopsy of lymph node	Chr	HA	Day Case
Biopsy of ovary	Bed	HA	Day Case
Biopsy of soft tissue	Chr	SC	Day Case
Biopsy of tonsils and adenoids	Chr	SC	Day Case
Biopsy of vagina	Chr	HA	Day Case
Biopsy of vulva	Chr	HA	Day Case
Bladder catheterization	Chr	HA	Day Case
Bronchoscopy with dilation	Bed	HA	Day Case
Capsulotomy of lens	Chr	SC	Day Case
Capsulotomy of lens by laser	Chr	SC	Day Case
Caudal inj/o local anaesthetic	Bed	HA	Day Case
Cauterisation of ectropion	Chr	SC	Day Case
Cauterisation or diathermy nasal septum	Chr	HA	Day Case
Cauterisation/diathermy nasal turbinates	Chr	HA	Day Case
Cervical polypectomy	Bed	HA	Day Case
Colonosc to heptic flexure w tattooing	Bed	HA	Day Case
Colposcopy	Chr	HA	Day Case
Cone biopsy of cervix	Bed	HA	Day Case
Cor ectropion/entropion w wedge resect	Chr	SC	Day Case
Cor hal val osteot metarsl trsf tend uni	Bed	HA	Day Case
Cor h-valgus osteotomy 1st metarsl uni	Bed	HA	Day Case
Cor h-valgus osteotomy 1st metarsl bil	Chr	HA	Day Case
Cor ptosis by oth levator muscle tech	Chr	HA	Day Case
Cor ptosis resec / advance levator musc	Chr	HA	Day Case
Correction contracture of digit of hand	Chr	SC	Day Case
Correction hammer toe, internal fixation	Chr	HA	Day Case
Correction of bat ear	Chr	HA	Day Case
Correction of hammer toe	Chr	HA	Day Case
Correction of ptosis by other techniques	Chr	HA	Day Case
Correction of syndactyly	Chr	SC	Day Case
Correction trichiasis by cryothrpy 1 eye	Chr	HA	Day Case
Curettage of uterus without dilation	Bed	HA	Day Case
Cystoscopy through artificial stoma	Chr	HA	Day Case
Dacryocystorhinostomy [DCR]	Chr	HA	Day Case

Debridement of toenail	Chr	SC	Day Case
Destruction of ciliary body	Chr	HA	Day Case
Destruction of lesion of iris by laser	Chr	HA	Day Case
Diagnostic hysteroscopy	Chr	HA	Day Case
Dilation & curettage of uterus [D&C]	Bed	HA	Day Case
Dilation of enterostomy stoma	Chr	HA	Day Case
Dilation of urethral stricture	Bed	HA	Day Case
Division of intrauterine adhesions	Bed	HA	Day Case
Division of nasal adhesions	Chr	HA	Day Case
Dorsal or lateral slit of prepuce	Chr	HA	Day Case
Electrotherapy of multiple skin lesions	Chr	SC	Day Case
Endosc admin of agt into bladder wall	Chr	HA	Day Case
Endosc controlled hydrodilation bladder	Bed	HA	Day Case
Endosc dest bladder lsn / tiss <= 2 cm	Bed	HA	Day Case
Endosc dest of multiple lesions bladder	Bed	HA	Day Case
Endosc laser frag/extr ureth calculus	Bed	HA	Day Case
Endosc R/O indwelling urinary catheter	Chr	HA	Day Case
Endosc replace indwel urinary catheter	Bed	HA	Day Case
Endosc resec lsn / tiss bladder <= 2 cm	Bed	HA	Day Case
Endosc resec single lsn bladder > 2 cm	Bed	HA	Day Case
Endosc resection mult lesions bladder	Bed	HA	Day Case
Endoscopic biopsy of prostate	20%B	HA	Day Case
Endoscopic biopsy of ureter	Bed	HA	Day Case
Endoscopic destruction ureteric lesion	Bed	HA	Day Case
Endoscopic dilation of ureter	Bed	HA	Day Case
Endoscopic e/o lesion tissue anus	Bed	HA	Day Case
Endoscopic endometrial ablation	Bed	HA	Day Case
Endoscopic insertion of ureteric stent	Bed	HA	Day Case
Endoscopic insertion of urethral stent	Bed	HA	Day Case
Endoscopic removal of ureteric stent	Bed	HA	Day Case
Endoscopic replacement of ureteric stent	Bed	HA	Day Case
Endoscopic ureteric cath, unilateral	Bed	HA	Day Case
Epididymectomy, unilateral	Chr	HA	Day Case
Epidural inj/o other/cmb thrpc subs	Bed	HA	Day Case
Epidural injection of steroid	Bed	HA	Day Case
Epithelial debridement of cornea	Chr	SC	Day Case
Excision lesion or tissue of conjunctiva	Chr	SC	Day Case
Excision lesion(s) SSCT, genitals	Bed	HA	Day Case
Excision of accessory breast tissue	Bed	HA	Day Case
Excision of accessory nipple	Chr	HA	Day Case
Excision of anal polyp	Bed	HA	Day Case
Excision of anal skin tag	Chr	SC	Day Case
Excision of aural polyp, external ear	Chr	HA	Day Case
Excision of cyst of tarsal plate	Chr	SC	Day Case

Excision of duct (central) of breast	Bed	HA	Day Case
Excision of epididymal cyst, unilateral	Bed	HA	Day Case
Excision of exostosis of bone of foot	Bed	HA	Day Case
Excision of ganglion of hand	Chr	SC	Day Case
Excision of ganglion of volar wrist	Chr	SC	Day Case
Excision of ganglion, NEC	Chr	HA	Day Case
Excision of hydrocele	Bed	HA	Day Case
Excision of large bursa	Bed	HA	Day Case
Excision of lesion of bone, NEC	Bed	HA	Day Case
Excision of lesion of breast	Bed	HA	Day Case
Excision of lesion of testicle	20%B	HA	Day Case
Excision of lesion of tongue	Bed	HA	Day Case
Excision of lesion of vulva	Bed	HA	Day Case
Excision of lesion(s) SSCT, lip	Chr	SC	Day Case
Excision of lymph node of axilla	Bed	HA	Day Case
Excision of lymph node of neck	Chr	HA	Day Case
Excision of lymph node of other site	Chr	SC	Day Case
Excision of pterygium	Chr	HA	Day Case
Excision of sinus of SSCT	Chr	HA	Day Case
Excision of soft tissue, NEC	Chr	HA	Day Case
Excision of ulcer of SSCT	Chr	HA	Day Case
Excision other lesion or tissue anus	Bed	HA	Day Case
Excisional debridement of soft tissue	Chr	HA	Day Case
Expl scrotal contents fix testis, uni	Bed	HA	Day Case
Exploration of spermatic cord	Bed	HA	Day Case
Exploration scrotal contents, unilateral	Bed	HA	Day Case
Extr lens post cham sclerotomy w R/O vitr	Chr	HA	Day Case
Fat graft	Bed	HA	Day Case
Fraenuloplasty of penis	Bed	HA	Day Case
Full thickness skin graft of eyelid	Chr	SC	Day Case
Full thickness transplantation of cornea	Chr	HA	Day Case
Full thickness wedge excision of eyelid	Chr	SC	Day Case
Full thickness wedge excision of lip	Chr	SC	Day Case
Hymenectomy	Bed	HA	Day Case
Incision of eyelid	Chr	SC	Day Case
Incision of lacrimal punctum	Chr	SC	Day Case
Incision of perianal thrombus	Chr	SC	Day Case
Incision of soft tissue of hand	Chr	SC	Day Case
Inj/o paraurethral bulk, female incont	Bed	HA	Day Case
Ins oth nasolacrm tube lacm/conjunct sac	Chr	HA	Day Case
Ins sbc impl neurostimulator	Bed	HA	Day Case
Ins seton & exc anal fist inv low sphc	Bed	HA	Day Case
Insertion of anal seton	Bed	HA	Day Case
Insertion of aqueous shunt for glaucoma	Chr	HA	Day Case

Insertion of foldable artificial lens	Chr	HA	Day Case
Insertion of nasal septal button	Chr	HA	Day Case
Interptn saphofemor saphopoptl jnct VV	Bed	HA	Day Case
Interruption multiple tributaries of VV	Bed	HA	Day Case
Interruption sapheno-femoral jnct VV	Bed	HA	Day Case
Interruption sapheno-popliteal jnct VV	Bed	HA	Day Case
Intracv admin of pharmac agent antineopl	Chr	HA	Day Case
Intracv admin of pharmac agent steroid	Chr	HA	Day Case
Intracv admin pharmac agent oth & unsp	Chr	HA	Day Case
Intraderm colour skin for nipple/areola	Chr	HA	Day Case
Intranasal R/O polyp ethmoidal sinus	Chr	HA	Day Case
Intranasal R/O polyp, maxillary antrum	Chr	HA	Day Case
Lap chole w expl CBD v cystic duct	Bed	HA	Day Case
Lap diathermy of lesion of pelvic cavity	Bed	HA	Day Case
Lap repair inguinal hernia, bilateral	Bed	HA	Day Case
Lap repair inguinal hernia, unilateral	Bed	HA	Day Case
Lap repair of femoral hernia, unilateral	Bed	HA	Day Case
Laparoscopic cholecystectomy	Bed	HA	Day Case
Laparoscopic oophorectomy, unilateral	Bed	HA	Day Case
Laparoscopic ovarian cystectomy, uni	Bed	HA	Day Case
Laparoscopic ovarian drilling	Bed	HA	Day Case
Laparoscopic partial oophorectomy	Bed	HA	Day Case
Laparoscopic partial salpingectomy, uni	Bed	HA	Day Case
Laparoscopic salpingectomy, bilateral	Bed	HA	Day Case
Laparoscopic salpingectomy, unilateral	Bed	HA	Day Case
Laparoscopic salpingolysis	Bed	HA	Day Case
Laparoscopic salpingo-oophorectomy, bil	Bed	HA	Day Case
Laparoscopic salpingo-oophorectomy, uni	Bed	HA	Day Case
Laparoscopic sterilisation	Bed	HA	Day Case
Laparoscopy	Bed	HA	Day Case
Large loop excision transformation zone	Bed	HA	Day Case
Laser to lesion of face or neck	Chr	SC	Day Case
Lengthening of Achilles' tendon	Bed	HA	Day Case
Lingual fraenectomy	Chr	HA	Day Case
Local excision of lesion of penis	Chr	HA	Day Case
Local excision other intranasal lesion	Chr	HA	Day Case
Localisation of lesion of breast	Chr	SC	Day Case
Male circumcision	Bed	HA	Day Case
Microdochotomy of breast	Bed	HA	Day Case
Microlaryngoscopy	Bed	HA	Day Case
Microlaryngoscopy R/O lesion by laser	Chr	HA	Day Case
Microlaryngoscopy w R/O lesion	Chr	HA	Day Case
Myringoplasty postaural or endaural appr	Bed	HA	Day Case
Myringotomy w insertion of tube, bil	Bed	HA	Day Case

Myringotomy w insertion of tube, uni	Bed	HA	Day Case
Myringotomy, bilateral	Bed	HA	Day Case
Myringotomy, unilateral	Bed	HA	Day Case
Neuraxial block, ASA 99	Bed	HA	Day Case
Occlusion lacm punctum by cautery	Chr	SC	Day Case
OI, fix trnscut abtmt for atchmt BAHA	Bed	HA	Day Case
Open biopsy of breast	Bed	HA	Day Case
Open neurolysis of peripheral nerve, NEC	Chr	HA	Day Case
Orchidectomy ins testicular prosth uni	Bed	HA	Day Case
Orchidectomy, unilateral	Bed	HA	Day Case
Orchidopexy for undescended testis, bil	Bed	HA	Day Case
Orchidopexy for undescended testis, uni	Bed	HA	Day Case
Ostectomy of finger	Chr	SC	Day Case
Osteotomy of toe with internal fixation	Chr	HA	Day Case
Oth extrcpslr lens extr w IOL, foldable	Chr	SC	Day Case
Other dx proc scrotum/tunica vaginalis	Bed	HA	Day Case
Other excision of lesion of bladder	Bed	HA	Day Case
Other extraction lens with IOL, foldable	Chr	SC	Day Case
Other extraction of crystalline lens	Chr	SC	Day Case
Other incision & drainage of SSCT	Bed	HA	Day Case
Other perc neurotomy by radiofrequency	Bed	HA	Day Case
Other procedures on external ear	Chr	SC	Day Case
Other procedures on nose	Chr	SC	Day Case
Other procedures on vagina	Bed	HA	Day Case
Palmar fasciectomy Dupuytren's contract	Bed	SC	Day Case
Palmar fasciectomy Dupuytren's, 1 digit	Bed	SC	Day Case
Palmar fasciectomy Dupuytren's, 2 digits	Bed	SC	Day Case
Partial excision of scrotum	70%B	HA	Day Case
Per anal submucosal exc, lsn/tis rectum	Bed	HA	Day Case
Perc drainage abscess, soft tissue	Bed	SC	Day Case
Perc nrotmy, facet jt denrv by radiofreq	Bed	HA	Day Case
Percutaneous replacement ureteric stent	Bed	HA	Day Case
Peripheral arteriography	Chr	HA	Day Case
Phacoem & aspr cataract w IOL foldable	Chr	SC	Day Case
Phacoem & aspr cataract w IOL other	Chr	SC	Day Case
Phacoemulsification & aspr cataract	Chr	SC	Day Case
Polypectomy of uterus via hysteroscopy	Chr	HA	Day Case
Probing lacrimal passages, unilateral	Chr	SC	Day Case
Probing of lacrimal passages, bilateral	Chr	SC	Day Case
R/O & replace breast prosth w exc caps	Bed	HA	Day Case
R/O asst/adaptive device/aid/equip	Bed	HA	Day Case
R/O FB from rectum or anus wo incision	Chr	SC	Day Case
R/O lsn from superficial perph nerve	Chr	SC	Day Case
R/O pin, screw or wire from femur	Bed	HA	Day Case

R/O therapeutic device, NEC	Chr	HA	Day Case
Recon eyelid usg flap, second stg	Chr	HA	Day Case
Reconstruction eyelid, flap sgl/1st stg	Chr	HA	Day Case
Reconstruction of eyelid	Chr	HA	Day Case
Reconstruction of nipple	Chr	SC	Day Case
Reduction rectal mucosa, rectal prolapse	Bed	HA	Day Case
Re-excision of lesion of breast	Bed	HA	Day Case
Release IPJ capsule Dupuytren's contract	Chr	SC	Day Case
Release of carpal tunnel	Chr	SC	Day Case
Release of tendon sheath of hand	Chr	HA	Day Case
Removal calculus salivary gland / duct	Chr	HA	Day Case
Removal of anal seton	Bed	HA	Day Case
Removal of anal wart	Chr	HA	Day Case
Removal of breast prosthesis	Bed	HA	Day Case
Removal of corneal sutures	Chr	SC	Day Case
Removal of foreign body wo incision NEC	Chr	SC	Day Case
Removal of gastrostomy tube	Chr	HA	Day Case
Removal of intranasal foreign body	Chr	HA	Day Case
Removal of nasal polyp	Chr	HA	Day Case
Removal of other soft tissue implant	Chr	HA	Day Case
Removal of pin, screw or wire, NEC	20%B	HA	Day Case
Removal of plantar wart	Chr	SC	Day Case
Removal of plate, rod or nail from femur	Bed	HA	Day Case
Removal of plate, rod or nail, NEC	Bed	HA	Day Case
Removal of silicone oil	Chr	HA	Day Case
Removal of subdermal hormone implant	Chr	HA	Day Case
Removal of vitreous, anterior approach	Bed	HA	Day Case
Reop strabms 1 / 2 musc 1 eye 2nd proc	Chr	HA	Day Case
Reoperation for varicose veins	Bed	HA	Day Case
Rep ect/entropion by rep infer retrac	Chr	SC	Day Case
Rep ect/entropion oth rep infer retrac	Chr	SC	Day Case
Repair ligament or capsule of IPJ hand	Chr	SC	Day Case
Repair ligament or capsule of MCP joint	Chr	HA	Day Case
Repair of epigastric hernia	Bed	HA	Day Case
Repair of inguinal hernia, bilateral	Bed	HA	Day Case
Repair of inguinal hernia, unilateral	Bed	HA	Day Case
Repair of other abdominal wall hernia	Bed	HA	Day Case
Repair of parastomal hernia	Bed	HA	Day Case
Repair of umbilical hernia	Bed	SC	Day Case
Repair of varicocele	Bed	HA	Day Case
Repair retinal detach w scleral buckling	Chr	HA	Day Case
Repair retinal detachment by cryotherapy	Chr	HA	Day Case
Replacement of artificial lens	Chr	HA	Day Case
Replacement of tracheostomy tube	Chr	HA	Day Case

Repositioning of artificial lens	Chr	HA	Day Case
Revision amputation stump of hand/finger	Chr	SC	Day Case
Revision of scleral fistulisation proc	Chr	HA	Day Case
Sbc fasciotomy Dupuytren's contracture	Chr	SC	Day Case
Sentinel lymph node biopsy NEC	Chr	HA	Day Case
Sentinel lymph node biopsy of axilla	Bed	HA	Day Case
Septoplasty	Bed	HA	Day Case
Sinoscopy	Bed	HA	Day Case
Small split skin graft of other site	Chr	HA	Day Case
Spinal rhizolysis	Bed	HA	Day Case
Strabismus proc inv 1 or 2 musc, 2 eyes	Chr	HA	Day Case
Strabismus proc inv 1 or 2 muscles 1 eye	Chr	HA	Day Case
Surgical eversion of inverted nipple	Chr	SC	Day Case
Tarsal strip procedure	Chr	SC	Day Case
Tonsillectomy with adenoidectomy	Bed	HA	Day Case
Tonsillectomy without adenoidectomy	Bed	HA	Day Case
Trabeculectomy	Chr	HA	Day Case
Treatment of Bartholin's gland cyst	Bed	HA	Day Case
Ultraviolet B therapy of other site	Chr	SC	Day Case
Ureteroscopy	Bed	HA	Day Case
Urethroscopy	Bed	HA	Day Case
Uvulectomy	Chr	HA	Day Case

MINOR OPERATION

Biopsy of eyelid	Chr	SC	Minor Operation
Biopsy of penis	Chr	SC	Minor Operation
Biopsy of temporal artery	Chr	SC	Minor Operation
Biopsy of tongue	Chr	SC	Minor Operation
Debridement of fingernail	Chr	SC	Minor Operation
Endoscopic release of carpal tunnel	Chr	SC	Minor Operation
Exc lesion(s) of SSCT, other site	Chr	SC	Minor Operation
Exc lesion(s) SSCT, oth site of head	Chr	SC	Minor Operation
Exc of lesion(s) SSCT, eyelid	Chr	SC	Minor Operation
Exc vasc anomaly SSCT/mucous surf, small	Chr	SC	Minor Operation
Excision ganglion distal digit of hand	Chr	SC	Minor Operation
Excision lesion(s) of SSCT, neck	Chr	SC	Minor Operation
Excision lesion(s) SSCT, finger	Chr	SC	Minor Operation
Excision of cyst of mouth	Chr	SC	Minor Operation
Excision of lesion of soft tissue, NEC	Chr	SC	Minor Operation
Excision of lesion(s) SSCT, ear	Chr	SC	Minor Operation
Excision of lesion(s) SSCT, foot	Chr	SC	Minor Operation
Excision of lesion(s) SSCT, hand	Chr	SC	Minor Operation
Excision of lesion(s) SSCT, leg	Chr	SC	Minor Operation
Excision of lesion(s) SSCT, nose	Chr	SC	Minor Operation
Excision of lymph node of groin	Chr	SC	Minor Operation

Excision of other lesion of mouth	Chr	SC	Minor Operation
Full thickness wedge excision of ear	Chr	SC	Minor Operation
Lateral canthoplasty	Chr	SC	Minor Operation
Other incision of SSCT	Chr	SC	Minor Operation
Partial resection of ingrown toenail	Chr	SC	Minor Operation
Primary repair of nail or nail bed	Chr	SC	Minor Operation
R/O foreign body from SSCT w incision	Chr	SC	Minor Operation
R/O sbc impl neurostimulator	Chr	SC	Minor Operation
Radical excision of ingrown toenail bed	Chr	SC	Minor Operation
Removal of fingernail	Chr	SC	Minor Operation
Removal of other wart	Chr	SC	Minor Operation
Removal of palmar wart	Chr	SC	Minor Operation
Removal of toenail	Chr	SC	Minor Operation
Revision scar face <= 3 cm in length	Chr	SC	Minor Operation
Stimulation therapy, NEC	Chr	SC	Minor Operation
Vasectomy, bilateral	Chr	SC	Minor Operation
Wedge resection of ingrown fingernail	Chr	SC	Minor Operation
Wedge resection of ingrown toenail	Chr	SC	Minor Operation

OUTPATIENT DIAGNOSTICS

Anal manometry	Chr	SC	Outpatient Diagnostics
Anorectal examination	Chr	SC	Outpatient Diagnostics
Biopsy of oral cavity	Chr	SC	Outpatient Diagnostics
Brain stem evoked response audiometry	Chr	SC	Outpatient Diagnostics
Cystometry	Chr	SC	Outpatient Diagnostics
Cystometry with >= 1 measurements	Chr	SC	Outpatient Diagnostics
Cystoscopy	20%B	SC	Outpatient Diagnostics
Endoscopic biopsy of bladder	Chr	SC	Outpatient Diagnostics
Exam nasal cavity &/or postnasal space	Chr	SC	Outpatient Diagnostics
Exam nasal cavity &/or postnasal spc, Bx	Chr	SC	Outpatient Diagnostics
Examination of optic fundi	Chr	SC	Outpatient Diagnostics
Fibreoptic examination of pharynx	Chr	SC	Outpatient Diagnostics
Fibreoptic laryngoscopy	Chr	SC	Outpatient Diagnostics
Full quantitative comput perimetry bil	Chr	SC	Outpatient Diagnostics
Gynaecological examination	Chr	SC	Outpatient Diagnostics
Inspection tympanic membrane, bilateral	Chr	SC	Outpatient Diagnostics
Inspection tympanic membrane, unilateral	Chr	SC	Outpatient Diagnostics
Laryngoscopy	Chr	SC	Outpatient Diagnostics
Measure gastroesph reflux 24hr pH monitor	Chr	SC	Outpatient Diagnostics
Nasendoscopy	Chr	SC	Outpatient Diagnostics
Oesophageal motility test	Chr	SC	Outpatient Diagnostics
Ophthalmological examination	Chr	SC	Outpatient Diagnostics
Other audiometry	Chr	SC	Outpatient Diagnostics
Otoscopy	Chr	SC	Outpatient Diagnostics
Papanicolaou smear study	Chr	SC	Outpatient Diagnostics

Percutaneous [closed] liver biopsy	Bed	SC	Outpatient Diagnostics
Percutaneous [needle] biopsy of prostate	Chr	SC	Outpatient Diagnostics
Rigid sigmoidoscopy	Chr	SC	Outpatient Diagnostics
Rotating chair evaln vestibular function	Chr	SC	Outpatient Diagnostics
Routine preoperative anaes assessment	Chr	SC	Outpatient Diagnostics
Test for tubal patency	Chr	SC	Outpatient Diagnostics
Tonometry	Chr	SC	Outpatient Diagnostics
Transrectal needle biopsy of prostate	Chr	SC	Outpatient Diagnostics
Trnsrectl u/s prostate, bladder, urethra	Chr	SC	Outpatient Diagnostics
Tympanometry using standard probe tone	Chr	SC	Outpatient Diagnostics
Ultrasound of orbital contents	Chr	SC	Outpatient Diagnostics
Urine flow study	Chr	SC	Outpatient Diagnostics

OUTPATIENT TREATMENT

Abdominal paracentesis	Bed	SC	Outpatient Treatment
Admin agent into zygo-apophyseal joint	Chr	SC	Outpatient Treatment
Admin agt into jt/oth synovl cavity NEC	Chr	SC	Outpatient Treatment
Admin anaes agent arnd radial nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd cervical portion SNS	Chr	SC	Outpatient Treatment
Admin anaes arnd femoral nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd genitofemoral nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd ilio-inguinal nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd median nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd mult intcstl nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd other perph nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd popliteal nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd single intcstl nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd suprascapular nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd sural nrv	Chr	SC	Outpatient Treatment
Admin anaes arnd ulnar nrv	Chr	SC	Outpatient Treatment
Admin botulinum toxin for strabismus	Chr	SC	Outpatient Treatment
Admin of botulinum toxin into eyelid	Chr	SC	Outpatient Treatment
Admin of other agt into soft tissue NEC	Chr	SC	Outpatient Treatment
Admin therapeutic agt in post chamber	Chr	SC	Outpatient Treatment
Admin therapeutic agt into ant chamber	Chr	SC	Outpatient Treatment
Admin/o thrpc agent to anorectal rgn	Chr	SC	Outpatient Treatment
Administration of agent into penis	Chr	SC	Outpatient Treatment
Administration of agent into skin lesion	Chr	SC	Outpatient Treatment
Administration of agent into SSCT	Chr	SC	Outpatient Treatment
Administration of sympatholytic agent	Chr	SC	Outpatient Treatment
Applicn/fit/adjust/replace oth dev/equip	Chr	SC	Outpatient Treatment
Aspiration jt/oth synovial cavity NEC	Chr	SC	Outpatient Treatment
Bladder retraining	Chr	SC	Outpatient Treatment
Caudal injection of steroid	Chr	SC	Outpatient Treatment
Cautery of cervix	Chr	SC	Outpatient Treatment

Correction ectropion/entropion by suture	Chr	SC	Outpatient Treatment
Correction trichiasis electrolysis 1 eye	Chr	SC	Outpatient Treatment
Correction trichiasis electrolysis, eyes	Chr	SC	Outpatient Treatment
Destruction retina by photocoagulation	Chr	SC	Outpatient Treatment
Dressing of wound	Chr	SC	Outpatient Treatment
Ear toilet, bilateral	Chr	SC	Outpatient Treatment
Ear toilet, unilateral	Chr	SC	Outpatient Treatment
Electrotherapy of single skin lesion	Chr	SC	Outpatient Treatment
Epidural inj/o local anaesthetic	Chr	SC	Outpatient Treatment
Epidural injct for lysis of adhesions	Chr	SC	Outpatient Treatment
ESWL of urinary tract	Chr	SC	Outpatient Treatment
Excision of lesion of vagina	Chr	SC	Outpatient Treatment
IM admin of pharmac agt oth & unsp agent	Chr	SC	Outpatient Treatment
Injection into tissue expander	Chr	SC	Outpatient Treatment
Insertion intrauterine device	Chr	SC	Outpatient Treatment
Insertion of other vaginal pessary	Chr	SC	Outpatient Treatment
Iridotomy by laser	Chr	SC	Outpatient Treatment
IV admin of pharmac agt oth & unsp agent	Chr	SC	Outpatient Treatment
Laser to lesion of skin, single lesion	Chr	SC	Outpatient Treatment
Load drug delv device oth / unsp agt	Chr	SC	Outpatient Treatment
Management of tracheostomy	Chr	SC	Outpatient Treatment
Micro injections of venular flares	Chr	SC	Outpatient Treatment
Multiple injections of varicose veins	Chr	SC	Outpatient Treatment
Occlusion of lacrimal punctum by plug	Chr	SC	Outpatient Treatment
Other aspiration of SSCT	Chr	SC	Outpatient Treatment
Percutaneous aspiration of hydrocele	Chr	SC	Outpatient Treatment
R/O foreign body from SSCT wo incision	Chr	SC	Outpatient Treatment
Removal of intrauterine device [IUD]	Chr	SC	Outpatient Treatment
Removal of nasal packing	Chr	SC	Outpatient Treatment
Removal of other vaginal pessary	Chr	SC	Outpatient Treatment
Removal of venous catheter	Chr	SC	Outpatient Treatment
Removal other urinary drainage device	Chr	SC	Outpatient Treatment
Replacement of cystostomy tube	Chr	SC	Outpatient Treatment
Replacement of intrauterine device [IUD]	Chr	SC	Outpatient Treatment
Replacement of other vaginal pessary	Chr	SC	Outpatient Treatment
Rigid sigmoidoscopy, polypectomy <= 9	Bed	SC	Outpatient Treatment
Rubber band ligation of haemorrhoids	Chr	SC	Outpatient Treatment
Sclerotherapy for haemorrhoids	Chr	SC	Outpatient Treatment
Subconjunctival administration of agent	Chr	SC	Outpatient Treatment
Trabeculoplasty by laser	Chr	SC	Outpatient Treatment
Trigeminal gangliotomy by radiofrequency	Chr	SC	Outpatient Treatment

11 Extra for edition 10 Codes

Phacoemulsification & aspr cataract	Chr	SC	Day Case
Phacoem of crystalline lens	Chr	SC	Day Case

Endovenous interptn of veins	Bed	SC	Day Case
Measurement of refraction	Chr	SC	Outpatient Diagnostics
Administration of agent into eyelid	Chr	SC	Outpatient Treatment
Partial coherence interferometry	Chr	SC	Outpatient Diagnostics
Interruption VV multiple tributaries	Bed	SC	Day Case
Partial excision of cervix		HA	Day Case
Fixation of testis unilateral	Bed	HA	Day Case
Fixation of testis bilateral	Bed	HA	Day Case
Admin agent extraocular musc for strabms	Chr	SC	Outpatient Treatment

APPENDIX 3 Standardised Operating Theatre Time Stamps Guidelines

Transforming Theatre

LEAD, MEASURE, IMPROVE, SUSTAIN



Using the Theatre Resource to Better Serve our Patients

Standardised Operating Theatre Time Stamps Guidelines

Version 002

Date: 11th July 2023

Standardised Operating Theatre Time Stamps Guidelines

Transforming Theatre: Standardised Operating Theatre Time Stamps

National Clinical Programme in Surgery, National Clinical Programme in Anaesthesia.

Introduction

The Transforming Theatre programme is an integrative approach to identifying and improving patient flow through the operating theatre. The aims of the programme are as follows;

1. Embed a **system of standardised theatre metrics** enabling both locally led (tactical & strategic) improvements and high-level Hospital Group development opportunities.
2. Align a **process for routine review and action of these metrics** locally by Theatre staff and Hospital Theatre Governance Group, and collectively by a Hospital Group Theatre Governance Group.
3. Provide a structured Quality Improvement methodology to achieve **tangible improvements through a multidisciplinary teams (MDT)** approach.
4. **Advance QI capability for all** by providing training, facilitation and coaching at all stages of the programme.

Why Standardise Operating Theatre Terminology?

Standardisation of terms used to document critical points in the patient's journey through the operating theatre department enables consistency across hospitals, facilitates training, improves efficiency and reduces cost. It avoids wasted effort arising from repeated and variable definition at multiple sites across public hospitals and enables successful quality improvement initiatives to be shared within and between hospital groups. It also ensures consistent definitions of operationally important process measures, like 'possible time' and 'ring-fenced time', and of derived measures, such as 'available time'. As our health service moves to greater use of electronic records, clarity of definitions becomes increasingly important.

The Patient's Journey through the Operating Theatre Department: five key time stamps

A key principle of healthcare quality improvement is ensuring the improvement team focuses first on areas within their control. The time stamp definitions describe five critical points in the surgical patient's theatre journey (see Figure 1): anaesthetic start, surgery start, surgery finish, anaesthetic finish and 'left theatre' times. These times were selected to focus on time points entirely within the control of the operating department team; each represents a clearly defined transition of care where data capture can be easily recorded in the course of standard theatre work.

In developing these five key timestamps, a number of alternative time points have been considered. The time a patient is sent for and when they arrive to the theatre department; the interval between arriving in theatre reception and entering the area where the anaesthetic is to be administered; and the time interval between when a patient is ready to leave and *actually* leaves the recovery room all have potential impacts on patient flow and efficiency of care. These time points are dependent not just on the theatre team but to a very great extent on the hospital's operational management, patient flow and bed availability. Local variation is common, and the team of stakeholders is considerably larger. As a result, while each of these intervals is a potential target for improvement activity, standardization is more challenging. For that reason, use of these additional time points is more suitable for sites with advanced improvement capability where recording of the five key time stamps is already standard practice.

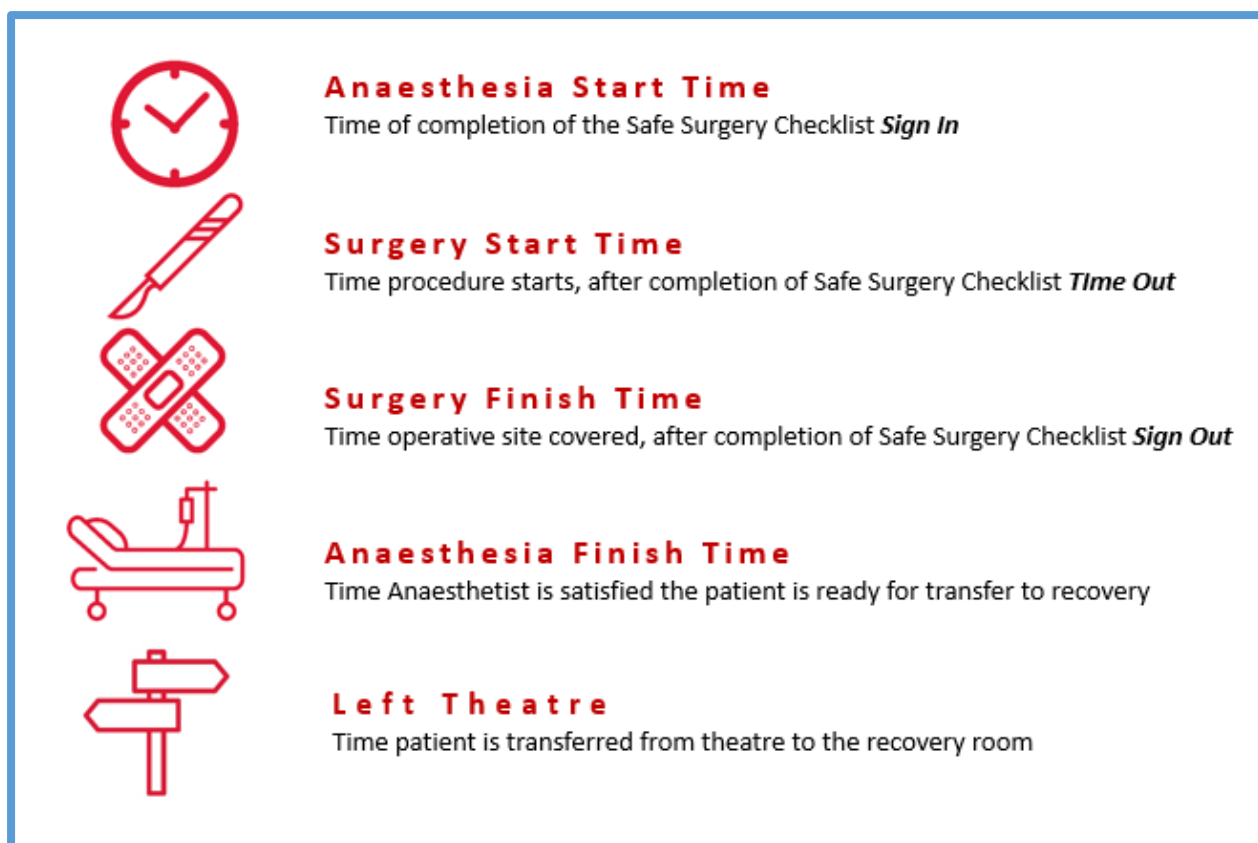


Figure 1: Five Key Timestamps

Time Stamps and the Safe Surgery Checklist

Time stamp definitions are consistent with and reinforce national policy relating to implementation of the Safe Surgery Checklist. The **anaesthetic start time**, therefore, requires both completion of the '**Sign In**' of the Safe Surgery Checklist as well as the patient being under the continuous management of the Anaesthetist in either the Anaesthetic Room or the Operating Room. Similarly, the **surgery start time** documents the so-called 'knife to skin' time¹ after completion of the Safe Surgery Checklist's '**Time Out**'. Lastly, the **surgery finish time** is defined as the time the operative site is covered, after completion of Safe Surgery Checklist '**Sign Out**'.

¹ The surgery start time refers to the time the surgeon commences the operation, whether using a scalpel, trocar, needle, cannula or scope.

Theatre Definitions

The operating theatre is a complex, high risk, resource-intensive environment. Careful stewardship of our theatre capacity is important to ensure that we use this scarce resource to optimal effect. A properly functioning operating theatre requires more than just infrastructure and equipment; it requires appropriate levels of staffing of different disciplines and skill mix. Importantly, each surgical patient requires facilities to enable safe pre- and post-operative care.

Visual Representation of Patient flow through the Theatre

A graphical representation of the patient flow is shown in Figure 2, showing the five key timestamps with additional theatre parameters including Theatre Open Time and Theatre Close Time.

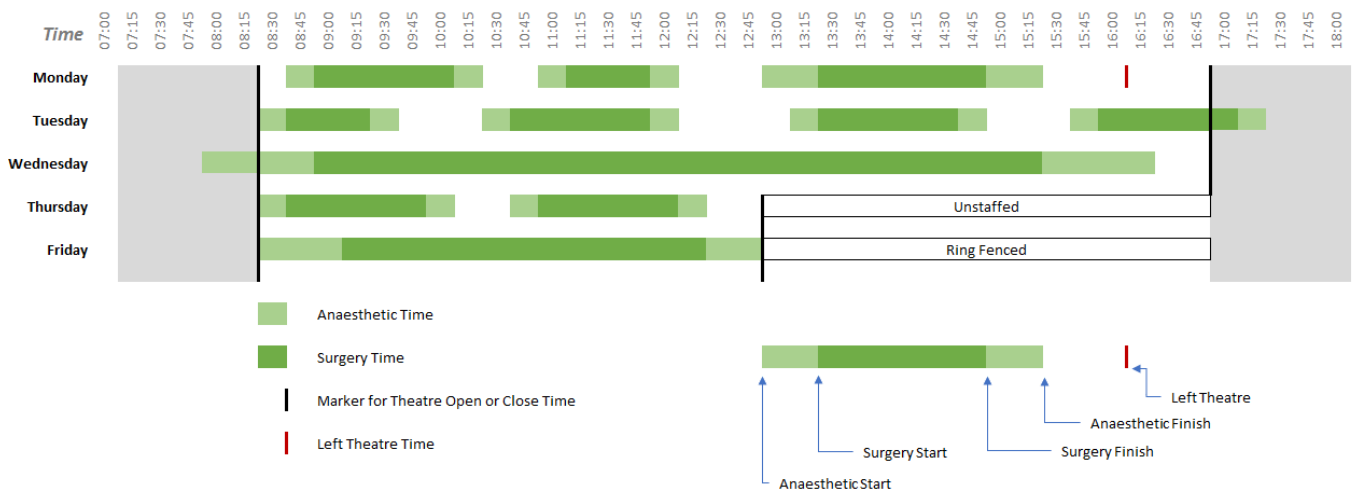


Figure 2: Patient Flow Through Theatre using the Five Key Timestamps

The Theatre Open time is the ‘planned start time’ of theatre session (list) as defined by local Management e.g. 08:30. The Theatre Close time is the ‘planned finish time’ of theatre session (list) as defined by local Management e.g. 17:00. The ‘Possible Time’ is the total theatre time planned from Theatre Open to Theatre Close working across a full week or time period for all theatres. The ‘Available Time’ is the time for patient surgical activity once ‘Ring-Fenced’ time, ‘Planned Closure’ time, ‘Cancelled List’ time, ‘Other Use’ time and ‘Unstaffed’ time have been removed from ‘Possible Time’. A description of each of these categories is summarized in Table 1.

<i>Possible Time</i>	<i>Is the total theatre time planned using local default Theatre Open to Theatre Close times, working across a full week or time period for all theatres</i>
<i>Ring-Fenced Time</i>	<i>This time is taken out of the Possible Time and is set aside for contingency operational or clinical reasons for a specific purpose e.g. protected access for emergency level 1 Caesarean sections.</i>
<i>Planned Closure</i>	<i>This time is taken out of the Possible Time and represents Theatre time that is not planned to run e.g. Bank Holidays, planned theatre maintenance etc.</i>
<i>Cancelled List</i>	<i>This is a Theatre list/time that was scheduled to run but has been cancelled and the Theatre is unused. This time is taken out of Possible Time.</i>
<i>Other Use</i>	<i>This is the time the theatre was dedicated for use by another service e.g. Endoscopy/Critical care and therefore not available for surgery and anaesthesia procedures. This time is taken out of Possible Time.</i>
<i>Unstaffed/Un-resourced Time</i>	<i>Excluding Ring-Fenced, Planned Closure, Cancelled List and Other Use, how much time were the theatres NOT staffed/resourced and therefore could not operate. Staffing includes medical, nursing and other healthcare staff necessary to run the service.</i>
<i>Available Time</i>	<i>Available Time = Possible Time – (Ring-Fenced Time + Planned Closure Time + Cancelled List Time + Other Use Time + Unstaffed Time).</i>
<i>Utilised Time</i>	<i>Any time taken up by a case(s) for Anaesthetic/Surgery within Available Time. This time is calculated from Anaesthetic Start to Anaesthetic Finish (or part thereof) for each case.</i>

Table 1: Breakdown of Possible Time, Available Time, and Utilised Time

A graphical representation of ‘Possible Time’, ‘Available Time’, and ‘Utilised Time’ is shown in Figure 3.

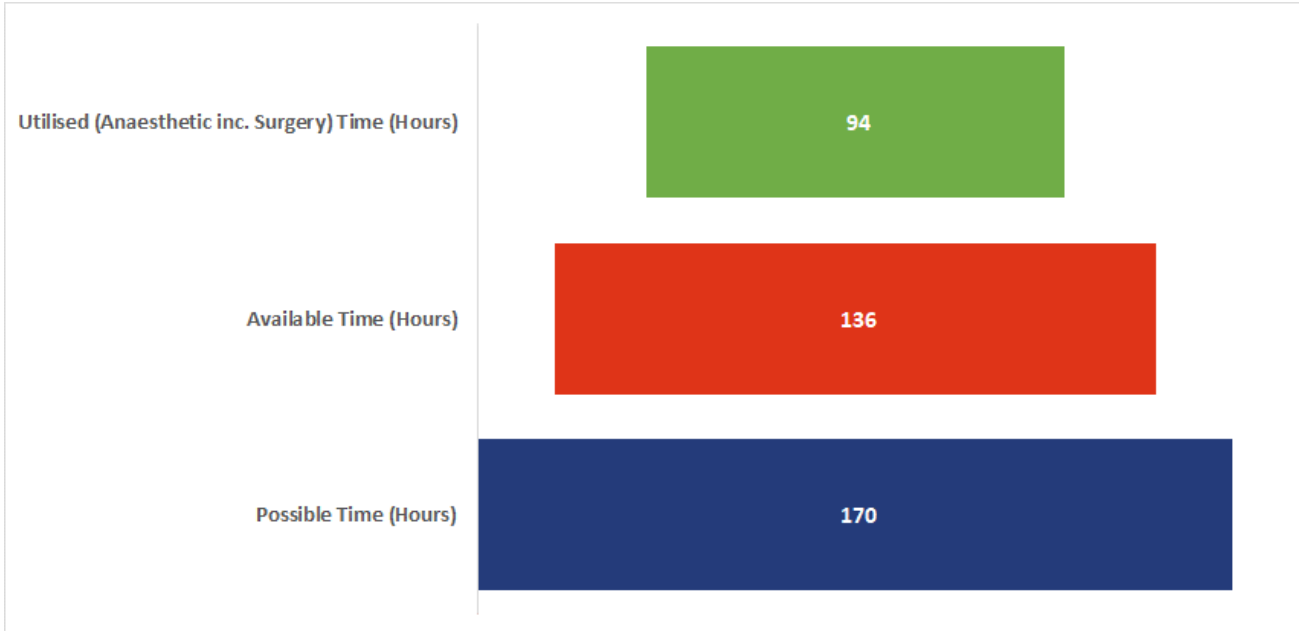


Figure 3: Graphical Representation of Possible Time, Available Time, and Utilised Time

In the above example,

% Utilised of Available Time (Green/Red) 69%

% Available of Possible Time (Red/Blue) 80%

Utilised Time: Anaesthetic including Surgery time used.

Available Time: Possible Time – (Ring Fenced Time + Planned Closures + Other Use + Cancelled Lists + Unstaffed Time).

Possible Time: Local standard ‘open’ to ‘close’ times for all theatres/operating rooms per week for time period being measured.

Theatre Metrics derived from the Five Key Time Stamps

A suite of metrics of theatre/operating room key performance indicators (KPIs) are derived by using the five key time stamps and ‘Available Time’ as follows in Table 2.

<i>Early / On Time Start</i>	<i>This is when the Anaesthetic Start of a case commences on or before the planned Theatre Open Time and it continues into Available Time.</i>
<i>Inter Operative Interval</i>	<i>This is the time from Anaesthetic Finish of previous case to Anaesthetic Start of the next case. This time include Anaesthetic Finish to Left Theatre of one case, until the Anaesthetic Start of the next case.</i>
<i>Early Finish</i>	<i>If the last case finishes early within Available time, it is the time from the Anaesthetic Finish for that case to the planned Theatre Close time.</i>
<i>Over Run</i>	<i>(When a case overlaps Theatre Close Time) The time from Theatre Close to Anaesthetic Finish time.</i>
<i>% Utilisation</i>	<i>‘Utilised Time’ divided by ‘Available Time’</i>
<i>Additional Time Used</i>	<i>Any time taken up by a case(s) for Anaesthetic/Surgery outside of Available Time.</i>

Table 2: Theatre Metrics (KPIs) derived from the Five Key Time Stamps

Figure 4 displays a graphical representation of the above Theatre key performance indicators (KPIs)

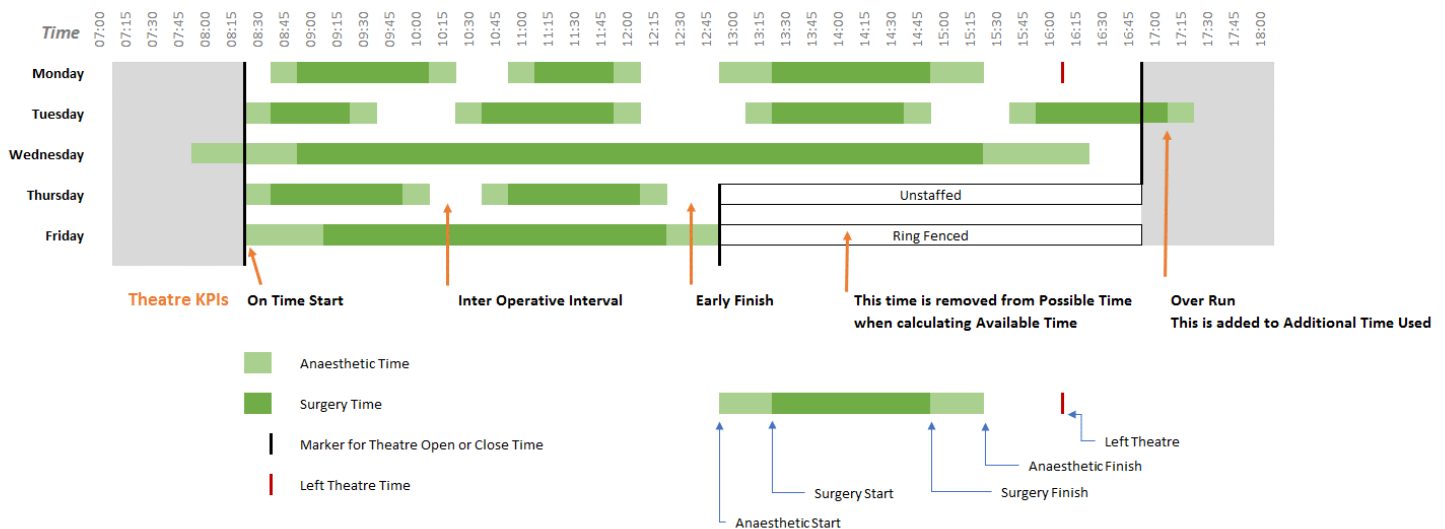


Figure 4: Graphical Representation of Theatre KPIs

Conclusion

Using standardised operating theatre time stamps allows for universal understanding of patient flow effectiveness through the Theatre resource. This enables identification of areas of opportunity to pursue using a structured Quality Improvement approach, by the Theatre Multidisciplinary Team (MTD).

Version Control Log

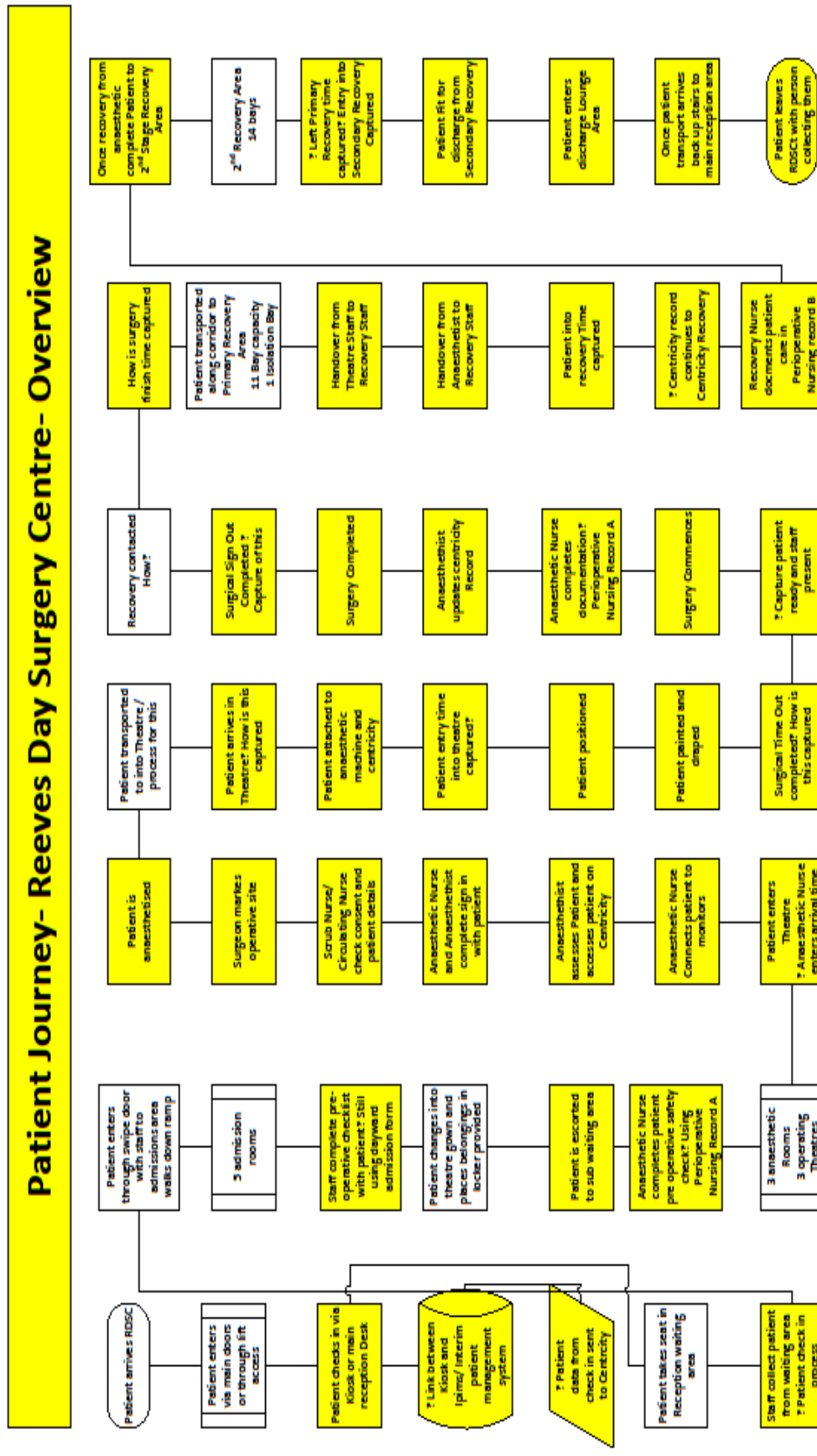
Version	Date	Description of Change	Changed By
001	24th March 2021	Initial Release	Prof Debbie McNamara / Charlie Dineen
002	11 th July 2023	Updated graphical representation of Possible, Available and Utilised Time in Figure 3. Replace 'Available Time Used' with 'Utilised Time'.	Prof Debbie McNamara / Charlie Dineen

Authors / Contact Details

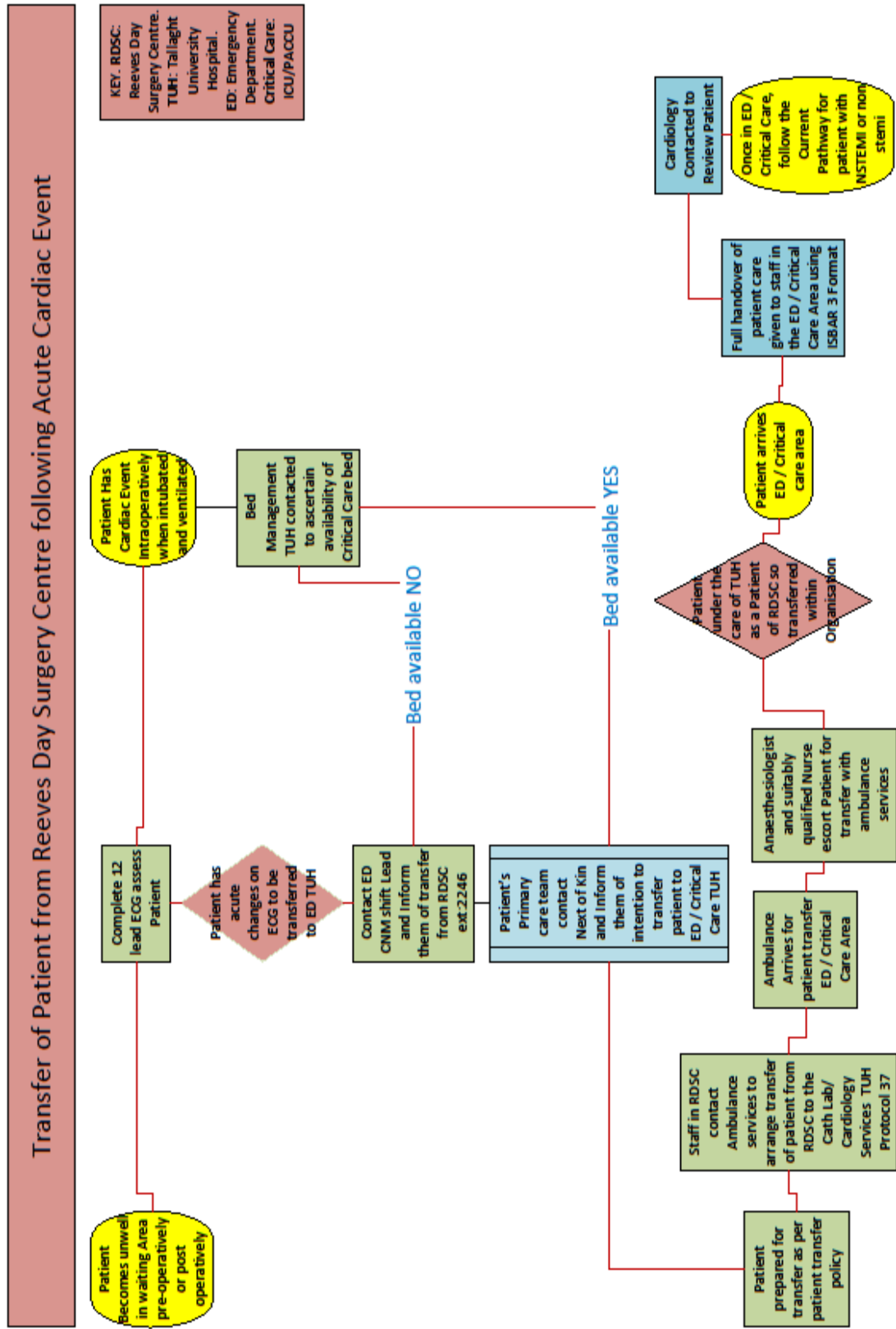
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APPENDIX 4. Example of Patient Journey from Reeves Day Surgery Centre (Acknowledgement: Tallaght University Hospital / Prof. Paul Ridgway)



APPENDIX 5. Example of predefined transfer protocol following acute cardiac event in the Reeves Day Surgery Centre (Acknowledgement: Tallaght University Hospital / Prof. Paul Ridgway)







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