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Specialty guides for patient management during the Coronavirus pandemic

Clinical guide for the management of cardiothoracic surgery patients during the Coronavirus pandemic

20 March 2020

"…and there are no more surgeons, urologists, orthopaedists, we are only doctors who suddenly become part of a single team to face this tsunami that has overwhelmed us…"
Dr Daniele Macchine, Bergamo, Italy. 9 March 2020

As doctors we all have general responsibilities in relation to Coronavirus and for these we should seek and act upon national and local guidelines. We must engage with those planning our local response. As the wider healthcare response escalates, we may also need to work outside of our specific areas of training and expertise, and the GMC has already indicated its support for this in the exceptional circumstances we may face: https://www.gmc-uk.org/news/news-archive/how-we-will-continue-to-regulate-in-light-of-novel-coronavirus

Cardiothoracic practice may not seem to be in the frontline in the Coronavirus response, but we do have a key role to play and this must be planned. In response to pressures on the NHS, the elective component of our work may be curtailed. However, the non-elective patients, emergency, urgent and trauma, will continue to need care. We should seek to provide the best local solutions to continue the proper management of these patients while protecting resources for the response to Coronavirus.

It is clear from experiences in other countries that there is a high probability that healthcare provision in the UK will be severely compromised in relation to Coronavirus. The expectation is that we will progress through stages of preparation, escalation, crisis, de-escalation and resolution, and then recovery before returning to normal practice. It is expected that during these overlapping transitions, healthcare will probably progress through:

- normal working
- working under pressure (eg akin to winter pressures)
- compensated working (escalating special measures in places but healthcare copes)
- uncompensated working (special measures are in place – however, healthcare systems will not provide normally desired outcomes; care provision will need to be prioritised.)

Cardiothoracic practice varies around the country. Units may be located within major trauma centres or as isolated units. The pressures and circumstances may affect these units in different ways and at different times. Therefore, it is important we create a framework to support local decision making, rather than directing specifically what and when decisions should be made.

However, all our individual decisions must consider the wider position. We must bring together the available information – local, regional and national, reconcile objectives and make effective decisions – together recognising the individual nature of our circumstances. The impact of the Coronavirus is changing incredibly rapidly, and we must consider timing implications of decisions taken today on circumstances that may be radically different even a few days later. For example, complex surgery requiring critical care for several days has a longer impact than surgery requiring critical care for only a day.

As cardiothoracic surgeons, we do have a specific responsibility to ensure that essential cardiothoracic care is provided and not cancelled unnecessarily; but the burden on the wider NHS should be minimised. We should also ensure that in the context of public healthcare we should support the initiatives that minimise the risk to our patients and our staff.

In addition, we need to consider the small possibility that surgical facility for emergency surgery may be compromised due to a combination of factors including staff sickness, supply chain and the use of theatres and anaesthetic staff to produce ITU pods. This is a possible scenario and plans are needed.

Cardiothoracic surgeons have generic skills that apply to patients in intensive care. If extra ITU capacity involves anaesthetic rooms and operating theatres, then cardiothoracic surgeons may have a role in helping intensivists look after these patients.

Cardiothoracic patients can be considered in a few categories:

1. **Obligatory in-patients**: Condition mandates admission and surgical management

    - Guidance for the management of in-house urgent cases.

2. **Alternative pathways**

   - In-patient: condition can reasonably be managed on an ambulatory basis after a more limited in-patient stay than normal; eg ambulatory chest drain management, indwelling catheter drains
   - Ambulatory: condition can reasonably be managed on an ambulatory basis.

3. **Day-cases:** Surgery can be safely undertaken for a large number of conditions. Provision for day-case surgery must be made.

4. **Surgery and interventional care that can be postponed**

5. **Trauma surgery**

6. **First contact and clinics**

When planning your local response, please consider the following:

Leadership

- **A consultant must be designated as 'lead consultant'.** This duty can be for one day, a few days or even five days at a time in small units.
- This is an essential role during crisis management. It cannot be performed by the consultant 'on-call' or the consultant in clinic or in theatre. They must be free of clinical duties and the role involves coordination of the whole service from ED, OPD, theatre scheduling and liaison with other specialties and managers.
- It can be very stressful during a crisis. Support each other and share the workload. Do not expect the clinical director to do all of the co-ordination!
- Establish a daily sitrep and dashboard with critical data to share across the workforce. That should include patient flows, workforce issues, stock levels and other key messages (eg state of Coronavirus response, personal protective equipment (PPE) requirements.)

Obligatory in-patients

- Length of stay (LOS) must be minimised - especially critical care LOS.
- Use elective theatre capacity and surgeons to ensure minimum pre-operative delay for urgent/emergency cases.
- An anaesthetic guideline for patients requiring surgery and who are positive for Coronavirus will be required.

- Consider contingency plans for supply chain issues.

In-house urgent

In-house surgery is currently for patients who are more at risk of (eg) adverse cardiac events by going home than staying in hospital.

However, where there is a shortage of facilities for surgery, due to pressure of Coronavirus patients needing ITU care, it would be possible to divide these in-house patients into two groups:

- First group – those who have critical disease or unstable symptoms and should stay in hospital.
- Second group – those who have symptoms controlled on medication and do not have critical disease. This second group could go home knowing they can contact the unit if symptoms deteriorate, and that they will be prioritised for their surgery as normal service is resumed.

Alternative pathways

- Clinical decisions during a serious incident must take into account the available facility for the current patient, and also the impact this may have on the whole community.
- A number of patients can be managed either operatively or non-operatively. As the system comes under more pressure, there may be a shift towards non-operative care.
- Non-operative care may reduce the in-patient and operative burden on the NHS.
- It may also protect the individual from more prolonged exposure in a hospital setting.
- It may free up beds for more urgent cases.

Day-cases

- Many procedures are clinically suitable to be performed as a day-case.
- During the Coronavirus response, an increase in day-case surgery will:
  - avoid unnecessary admission
  - reduce exposure of the individual to a hospital environment.
  - free-up beds for more urgent cases
  - allow staff from elective theatres to continue working in a familiar environment.

- During the Coronavirus response, it is likely that the only elective surgery occurring will be urgent cases or day-cases. Even this provision may become compromised. Careful prioritisation of day-case patients will be needed across both the elective and non-elective patients based on theatre/staff capacity.

Surgery and interventional care postponed

- Some of our patients may be best managed by delaying their care until later in the year. This may be due to constrained resources but also it may be in the patient's best interest to not be post-operative if they then incidentally develop Coronavirus infection.

Trauma

- We should avoid unproductive attendances at hospital and travel – eg can we review x-rays and scans remotely and give remote advice to local clinicians? Can patients be managed with ambulatory chest drains?
- Severe trauma will still need to be managed, but hospital pathways/protocols may change. Patients may progress through different physical routes and locations to separate patient flows. We may be the first point of contact in order to free up ED physicians and others.
- Protocols to identify those injuries that require no follow up should be reviewed.

First contact and clinics

- We should avoid unproductive attendances at hospital.
- Outpatient attendances should be kept to the safe minimum.
- We should consider whether appointments are necessary or could be carried out by telephone or video-conferencing.
- Senior decision-making at the first point of contact should reduce or even prevent the need for further attendances.
- A decrease in elective work will allow greater senior presence at the front door.
- No patient should be scheduled for surgery without discussion with a consultant.
- The possibility of a seven-day service may need to be considered.
- Consider postponing long-term follow-up patients until the crisis has passed.
- Can a virtual clinic be developed in your facility?
- CT scanning may be limited as it is the investigation of choice for Coronavirus pneumonitis. Consider delaying post-operative surveillance scans.

Training and Education

- It will be important to cancel professional/study leave and postpone conferences, exams, courses, etc, thereby freeing up staff. "The aim is to ensure that surgeons and trainees are available to help health services cope with the Coronavirus response. A second aim is to minimise any risk, however small, of transmitting the virus to other groups of surgeons and/or surgical trainees."
- Many of our trainees (and seniors) have families abroad. These staff, if visiting family at home, may become caught up in flight delays and disruption, and hence would

exacerbate staff shortages. Consideration should be given to how these staff can be supported and additional opportunities found for them to communicate with their families (eg access to high quality videoconferencing at times to match their home countries.)

- This will be an important opportunity to train and educate our trainees in emergency planning, healthcare resilience, governance in extreme circumstances, major incident/disaster management and medical leadership as well wider clinical management of complex disease.

Wider Support

- Cardiothoracic surgeons have enough generic skills to help at front of house and triage.
- Clinicians may need to work in unfamiliar environments or outside of their sub-specialist areas. They will need to be supported.

Cardiothoracic Surgery Escalation Framework

The Coronavirus pandemic is expected to put UK health services under escalating pressure. Initially decision making may be within current ethical/practice standards. However, if conditions continue to escalate, as has been seen in other countries, decision making may be more extraordinary.

In these circumstances it is important that when decisions are made, both the decision process and decision made is well documented. At more normal working levels, the decision making may seem easy; at extraordinary working levels these decisions are difficult. Staff will be under severe stress and it is well recognised that this will impact on staff mental health and resilience.

This framework is designed to support that decision making process. The decision making process should bring together available information, assess the risks, legal position, policies and procedures and then recommend and support shared decisions (individual clinician, organisation and (where appropriate) patients).

The phases of any incident response will overlap. Different hospitals and units may be at different stages at different times (although all decisions made should take account of the wider local, regional and national position). The table below should not be considered rigid (columns may overlap) and these are not mandatory instructions.

Phase	Preparation	Escalation	Crisis (compensated)	Crisis (uncompensated)	Resolution	Recovery	Normal Working
Likely prevalence	Low	Medium	High	Very High	Reducing	Normal post-endemic levels	Normal post-endemic levels
Impact	Normal winter pressures Business as usual	Limited ITU Limited beds	No ITU Theatre ITU pods No beds Emergency discharges	Severe pressure across the health service Staff, skill, equipment, capacity shortages Emergency surgery limited Isolation limited	Health services under severe pressure but improving	Enhanced working levels	Normal working Business as usual
Stage	Prepare to respond	Stop routine elective	Major incident (compensated) Prioritise very urgent/emergency	Major incident (uncompensated) Absolutely essential only, prioritised use of resources supported by ethical/legal framework	De-escalation; capture improved working	De-escalation; capture improved working	Normal working with learnt improvements
Elective operating	Normal but focus on priority patients and non-vulnerable patients	In-house urgent cardiac surgery and patients deteriorating from home/peripheral hospitals. Urgent thoracic surgery and cancers that can't wait Increase day-case, alternative pathways/ management Increase day-case Expedite urgent transfers, priority cases from clinics	All elective surgery stops Ambulatory management, non-operative management only	All elective surgery stopped Only life-threatening in-house cardiac surgery. Cardiothoracic surgeons may need to support intensive care patients being cared for in anaesthetic rooms / theatres	Recommence elective surgery for priority cases only Recommence elective ie all the in-house patients that were sent home, delayed cancer patients	Enhance elective surgery capacity to manage backlog	Normal elective capacity
Emergency operating	Normal	Emergency surgery possible but consider using alternative pathways	Emergency surgery limited, if possible, use alternative pathways	Only very selected emergency surgery, prioritised use of resources supported by ethical/legal framework	Emergency surgery possible but consider using alternative pathways	Normal emergency surgery	Normal emergency surgery
Elective clinics	Maximise use of telephone/video conferencing Minimise face-to-face appts, postpone non-urgent referrals, follow-ups Reduce number of clinics to free senior staff for planning, in patient management	Maximise clinic reduction - stop review appointments unless there are problems. No new patients unless urgent.	Cancel all elective clinics	Cancel all elective clinics	Restart limited clinic resources as capacity permits	Enhanced clinic capacity	Normal clinic capacity

Emergency clinics		Consider emergency clinics only for urgent referrals / triage (tel/video-conferencing only)	Emergency clinic attendance only	Emergency clinic attendance only (aimed to avoid admissions)	Emergency clinics continue	Emergency clinics can stop	Normal clinic capacity (utilising learnt improvements eg tel/video follow-up
MDTs	Provide MDT support, minimise attendance whilst focusing senior decision making; prioritise efficient use of pathways to maximise efficiency and reduce foot-fall	Reduce MDT to essential cases only, minimise attendance, video-conferencing preferable	MDT discussion by cons to cons communication	MDT discussion by cons to cons communication – emergency cases only	Reduce MDT to essential cases only, minimise attendance, video-conferencing preferable	Enhanced MDT capacity	Normal MDT capacity