# NSHA Perioperative and Interventional Radiology Services During COVID-19 Pandemic:

# Recommendations for Triage of Urgent, Benign and Cancer Surgery

This is a follow up communication concerning triage of surgical and interventional radiology services during the COVID-19 global pandemic. As previously communicated, all non-urgent operative and IR procedures have been suspended in all Nova Scotia Health Authority (NSHA) facilities effective March 18, 2020. This communication concerns approaches to defining more clearly elective from urgent cases to assist in triage of surgical and IR resources in a given hospital. Urgent cases include cancer and some non-cancer cases. We have developed a four-level, priority band approach for triage of these urgent procedures separated into cancer and non-cancer priority lists.

The priority band approach we have taken is based on The ACS Guidelines for non-emergent cases during COVID-19 pandemic (https://www.facs.org/about-acs/covid-19/information-for-surgeons/triage). These recommendations are meant to assist in the stratification of cases by assigning an urgency bandwidth. We have adapted the ACS recommendation by reducing them to four bandwidths, one as most urgent and four as least. Distribution of OR and IR resources to services/patients and ultimately triage decisions will be taken at a hospital level, in light of resource availability, with input from medical staff (surgery or IR and anesthesia as applicable) and administration. The risk of delay will be balanced with the risk of deferral, which includes re-presentation in the near-term at a higher level of urgency. In addition to priority band assignment it will be very important to take into consideration predicted: transfusion requirement; ICU bed days, IMCU bed days; hospital bed days. These complex decisions need to be taken locally based on resource availability. Regular check-ins among the zones will be helpful in determining any imbalance in resources to help us look after urgent cases throughout the province in a timely fashion, although moving patients or providers during the outbreak will entail further consideration given the current situation.

COVID-19 screening must of course be in place for any case being put forward for surgery. Non-emergent cases that screen positive should be deferred until definitive testing is complete. Emergent cases that screen positive should be treated as though they are positive cases. A detailed, algorithmic approach to care for presumed positive and test-positive cases is in development and will be distributed soon.

## Cancer Cases-Priority Band Assignment

1. Conditions with threat to life/limb/organ over next 24 hours. **Surgical examples include:** (Malignancy with obstruction, perforation, significant bleeding; ENT malignancy with ongoing airway/swallowing compromise; spinal cord tumor with compression). **IR examples include:** (SVC syndrome). These cases should be booked urgently and leveled appropriate to your site practices.
2. Conditions with threat to life/organ within two weeks. These conditions are not yet true emergencies but may quickly progress to a true emergency. **Surgical examples include:** (malignant brain tumors; transfusion dependent bleeding in renal and GI malignancy,

potential for obstructing airway in advanced head and neck cancer, mediastinal mass with potential airway compromise, ureteral obstruction with acute renal failure, malignant biliary obstruction; AND/OR require clear timing related to receipt of neoadjuvant therapy).

3. Conditions with threat to life over next 4 weeks – most solid organ malignancies; brain tumors with neurologic compromise.
4. Conditions where delay of 8 weeks unlikely to impact oncologic outcome: e.g. well-differentiated non-advanced thyroid cancer, low-risk prostate cancer, most non-melanoma skin cancer, DCIS breast; benign brain tumors without neurologic compromise. ***These cases are not to be performed during the COVID-19 outbreak.***

## Non Cancer Cases-Priority Band Assignment

1. Conditions with threat to life/limb/organ over next 24 hours. **Surgical examples include:** (Fournier's gangrene; Torsion; septic obstructed stone; clot retention; Bowel Obstruction; Painful Aneurysm; Carotid with stroke in evolution/crescendo TIAs; Type A and complicated Type-B Dissection; Vascular Disease with limb-threatening ischemia; open fractures; major trauma; CAD with ongoing ischemia refractory to management; shock with cardiac surgery correctible lesion; cranial surgery for acutely expanding mass with neurological compromise; craniotomy for vascular malformations including aneurysm; spinal decompression). **Opthalmology examples include:** retinal detachment, endophthalmitis, open globe. **IR examples include:** (variceal or other active GI bleeding, traumatic hemorrhage, non-traumatic hemorrhage, SAH from ruptured aneurysm massive/submassive PE; TEVAR in complicated type B dissection; aortic disruption; acute stroke EVT; ruptured intracranial aneurysm or AVM with subarachnoid hemorrhage). These cases should be booked urgently and prioritized appropriate to your site practices.
2. Condition with threat to life/organ within two weeks. These conditions are not true emergencies but can progress to an emergency in a short period of time. **Surgical examples include:** (carotid disease with TIAs; Symptomatic aortic stenosis or high risk CAD, aneurysms with documented enlargement/symptoms or size criteria with high risk of rupture; biliary obstruction, ureteric obstruction, abscess, failing dialysis access or dialysis access where the need for dialysis is imminent; fractures where surgical stabilization is indicated; spinal cord decompression/myelopathy.) **Ophthalmology examples**: high risk glaucoma; dropped nucleous from cataract surgery; submacular hemorrhage; corneal transplant in eyes at risk of perforation). **IR examples include:** (carotid, vascular, aneurysm, abscess and dialysis access examples as under surgery).
3. Conditions with threat to progress to emergency within four to eight weeks. **Surgical examples Include:** (Vascular Disease with non-healing ulcer; Severe MR with heart failure controlled medically; Ureteric stone without obstruction; ureteric stent/ nephrostomy requiring change; **Ophthalmology examples**: choroidal hemorrhage or effusion; dislocated intraocular lens). **IR examples include:** (ureteric stone with obstruction; nephrostomy tube in need of change).
4. Conditions where delay of 8 weeks is unlikely to adversely impact outcome. These cases should be deferred. **Surgery examples include:** (arthroplasty, arthroscopy; non-incarcerated

hernia; elective cholecystectomy; myringostomy tubes; varicose vein surgery; stable CAD; stable mitral valve disease without heart failure; vascular disease with claudication, vascular malformation, menorrhagia , adrenal adenoma; **Ophthalmology examples include:** macular holes, elective cataract). **IR examples include:** (Vascular disease with claudication). ***These cases are not to be performed during the COVID-19 outbreak.***

Please work with zone and programme leadership to identify zone specific needs and proceed with implementation

As a health care organization, it is important that we take every measure to ensure the safety of our patients and to maintain our capacity to respond to community needs; focusing on the prevention of disease in our communities. To assist with containment of the disease, NSHA is encouraging social distancing and avoiding large gatherings which are known strategies that interrupt person to person spread. NSHA is committed to supporting all efforts to minimize the health impacts of COVID 19 in Nova Scotia.

## Data Requirements for Triage Consideration

Below find a list of data elements that will be required for triage activities at a given hospital. Consideration needs to be taken not only of priority band, but of ICU, IMCU, and floor bed day requirements as well as transfusion requirements. COVID screening data and test data are, of course, critically important for everyone's safety.

1. Name:
2. DOB:
3. Diagnosis:
4. Planned Procedure:
5. Surgeon:
6. Service/Division:
7. **Priority Band (1-4, (1 is most urgent)see attached)**
8. Date of decision for surgery:
9. Did patient have OR booking date pre COVID-19? (y/n):
    a. If yes, date:
10. Did patient receive neoadjuvant therapy? (Y/N)
    a. If yes, target date for surgery (week/month)
11. **Postop disposition expected (ICU, stepdown, inpatient ward, outpatient)**
12. Estimated length of procedure (minutes):
13. **Estimated Length of stay (Days):**
14. **Expected blood transfusion (Y/N):**
15. **COVID-19 screening and or testing result**