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General and Colorectal Surgery during the Covid-19 Situation

The initial government elective surgery bans introduced 1st April created confusion both for doctors and patients. As of 27th April, these are now relaxing, although the substance of this is still uncertain. I hope to outline below some practical guidelines. **We are offering telehealth appointments** although this is not always possible where an examination is necessary and **still seeing patients**, even if we defer their operations. This guide is divided into acute/elective surgery and perianal, colonic & other general surgery. A summary table is on the last page.

Acute General Surgery

On the most part, management paradigms have not changed for acute surgery. If it needs to be done, it should still be done. There are some changes surrounding Covid +ve patients, as outlined below.

Acute Perianal Surgery

There are 3 main conditions represented here:

1) *Perianal sepsis - abscesses, fistulas*

The treatment of these conditions has remained largely unchanged. These still require the facilitation of adequate drainage, and this will likely be done in theatre. If there is only perianal cellulitis and no clinical evidence of an abscess, as usual, a trial of antibiotics can be conducted. However, many of these patients will require formal surgical treatment to bring about resolution of their condition.

If the patient has suspected or confirmed Covid infection, consideration will be given to performing these procedures under a spinal block to avoid the risks of general anaesthesia.

2) *Thrombosed perianal haematomas (external haemorrhoids)*

As I am sure you are familiar with, the favoured early (within 48-72 hours) treatment is surgical excision. Once patients present later than this, conservative management with the stool softeners and sitz baths is generally recommended due to surgery prolonging symptoms. This largely has not changed. Occasionally, patients fail nonoperative treatment and require delayed excision. If the patient is Covid positive, then stronger consideration will be given to a non-operative approach. Operations in Covid positive patients, if they are necessary, will likely be done under spinal anaesthesia as above.

3) *Acute internal haemorrhoids*

This is a catchall phrase for either haemorrhoids at risk of necrosis or causing profuse bleeding. Generally, these patients will still need operative management. Again, if they are Covid positive, then a regional anaesthesia approach such as spinal anaesthetic will be strongly considered.

Acute Abdominal Colonic Surgery

Before I begin discussion regarding this, I will address the issue of laparoscopy. There are concerns regarding the laparoscopic aerosolisation of SARS-CoV-2, and the exposure of theatre staff to risk. My personal practice is to still perform laparoscopy for Covid negative patients.

Where the patient is Covid positive, then a balance of patient benefit vs healthcare worker risk must be entertained. Where the bowel is perforated, I would usually favour an open approach, as the peritoneal space is already contaminated with faeces and possibly virus particles. If the bowel is not perforated, then careful consideration on a case-by-case basis as required. I have been using mitigation strategies such as a closed smoke evacuation system, prevention of venting of gas into the theatre and the judicious use of sealing devices when the need for bowel resection is present.

1) *Diverticulitis*

The treatment of uncomplicated diverticulitis is still antibiotics. In cases of complicated diverticulitis (abscess, fistula, perforation), then the usual nonoperative approaches such as radiological drains will be used if appropriate. A higher threshold will be used to consider the patient for surgery, however in cases of non-responding sepsis or haemodynamic instability an operation is still warranted.

2) *Colonic PR bleeding*

This has largely not changed. Generally, operative treatment is avoided in these cases. The use of blood transfusion, CT angiogram, and when these fail, the use of interventional radiology, have largely reduced the need for total colectomy and end ileostomy. Some clinicians favour the use of acute colonoscopy in the investigation and treatment of PR bleeding. Typically, I have not been of this particular approach and that currently, the use of colonoscopy in this acute setting would be limited due to the risks of aerosolisation of the SARS-CoV-2 virus.

3) *Small and large bowel obstruction*

Treatment paradigms for these two conditions have not changed. Adhesive small bowel obstruction will

often resolve with conservative management only. Large bowel obstruction and small bowel obstruction with a virgin abdomen almost always need operative intervention, whether this is diversion with a stoma or resection. One note is that care must be taken when using nasogastric tubes. Nasogastric tube insertion is commonly associated with coughing which is an aerosol generating event. In the Covid positive patient, staff will be in full protective wear if the nasogastric tube needs to be inserted. In light of this, I have been more judicious in my use of nasogastric tubes in both Covid negative and positive patients.

4) *Colitis*

Again, there are minimal changes to the treatment of colitis in this era. Most of these can be treated with antibiotics alone. The unlucky few that require operative intervention will still receive it.

Other Acute General Surgery

1) *Appendicitis*

If patients are Covid negative, then treatment algorithms have room main largely the same with the recommendation of laparoscopic appendectomy. The difficulty is when patients are Covid positive. There are substantial risks to the theatre staff during these cases. There are also case reports from Italy, Iran and China that even asymptomatic Covid positive patients have higher rates of lung failure in the perioperative period, and that general anaesthesia may be a risk factor for this. Therefore, I have moved towards an initial non-operative approach in appendicitis for Covid positive patients. Assuming that they have responded well to conservative management, once their Covid infection has cleared, I would perform an interval appendectomy. If they do not resolve, then considerations regarding laparoscopic versus open surgery come into play. An open operation with the use of spinal anaesthesia is likely to be both safer for the patient and theatre staff. Hospital stay between an open and laparoscopic appendectomy is equivalent although patients do take longer to recover in the community. A case-by-case judgement will be taken with each patient.

2) *Cholecystitis*

As with appendicitis, the treatment of the Covid negative patient has not changed. Covid positive patients should not require an operation. Before the last decade, most cholecystitis was treated with antibiotics at the initial presentation and an interval cholecystectomy. This will almost certainly be the case for Covid positive patients. In those that fail non-operative management, a cholecystostomy tube can be used to temporalise the situation until they have cleared their Covid disease.

3) *Choledocholithiasis/Ascending cholangitis*

As above, in the Covid -ve patient, ERCP with same admission cholecystectomy is warranted. In the Covid +ve patient, ERCP is still required, but the question of same admission cholecystectomy is tricky.

4) *Other gastrointestinal tract perforation*

These paradigms have not changed. Most of these require operative management such as perforated small bowel or perforated gastric/duodenal ulcers.

Elective Surgery

As I am sure you are aware, the government initially placed restrictions on elective surgery to only CAT 1 and urgent CAT 2 surgery. These are not clear definitions and have never applied to the private system. These are now easing, although this will be conducted in a staged manner. As with any of these conditions, I would always be happy to see them for assessment, and if urgent surgery is not required, to proceed with their surgery when conditions change.

Elective Perianal Surgery (haemorrhoids, fissure, fistula)

There is almost no elective perineal surgery that could be considered either CAT 1 or urgent CAT 2. Either the situations progressed where they have become an acute problem as above, or they do not require surgery the next few weeks and can be temporalised with non-operative measures. Nonetheless, some of these patients may not present with what we would typically call an acute situation, but are in so much perianal pain that an operation is warranted. The other situation which should still receive an urgent operation is where there is a suspicious mass that requires examination under anaesthesia and biopsy to rule out cancer. As restrictions ease, we will be calling these patients as these conditions often cause much grief to patients.

Elective Abdominal Colonic Surgery

Cancer is essentially the only CAT 1 indication for elective colorectal abdominal surgery. I have discussed this with colleagues from around the world, and the view is that we should continue to do cancer operations until there is no capacity in the hospital. This is due to both patient specific reasons in terms of their cancer care, but also that it is likely that a number of these patients will present either with bleeding or obstruction in the coming months. Since this crisis appears to be one that will be with us for some time, it makes no sense to defer these operations if they are only going to present 2 to 3 months down the line with worsening clinical states.

Unless there are acute indications for inflammatory bowel disease and or diverticular disease such as bleeding, perforation and obstruction, resections for these conditions has been largely put off. Again, with restrictions easing, we will looking to restart these as soon as possible.

Elective Abdominal Wall General Surgery

1) *Inguinal hernias*

There is now good evidence that patients with asymptomatic inguinal hernias (except for a lump), can be safely managed non-operatively, although

they tend to get bigger with time. Observational studies have shown that patients almost always progress to symptoms such as pain and the need for manual reduction before proceeding to subsequent incarceration and strangulation. Therefore, patients who are asymptomatic can be safely delayed.

Patients who have had an episode of obstruction or incarceration clearly need their hernia fixed soon. These patients will be prioritised. Patients that have some symptoms such as pain or the need for manual reduction should be repaired as restrictions ease.

2) Incisional and umbilical hernias

The data here is less clear than for inguinal hernias. The asymptomatic umbilical hernia that the patient has had all their life does not present a risk to them. However, many incisional hernias present with pain and the timing of their progression to subsequent incarceration and strangulation is not known. With reintroduction of elective surgery, these should be fixed. Assessment by a general surgeon should be strongly considered for these cases.

3) Other abdominal wall hernias (femoral, Spigelian etc)

In general, these hernias should be fixed. Femoral hernias, have a high rate of incarceration and subsequent strangulation, so much so that their first presentation is often in the Emergency Department with ischaemic bowel.

Elective Pilonidal Surgery

All elective pilonidal surgery, by its nature, is not urgent and therefore was initially deferred. Of course, this does not apply to acute pilonidal abscesses. As restrictions ease, we will be calling these patients, as these conditions can be debilitating and significantly impact one's life.

Endoscopy

1) Gastroscopy

The Gastroenterological Society of Australia (GESA) have put out strong guidelines in regards to the use of gastroscopy. Gastroscopy is a high-risk procedure and should be used sparingly, even patients thought to be Covid negative. GESA's official recommendation is that for the investigation of dysphagia and iron deficiency anaemia is to consider these case by case, although many endoscopy units stopped doing any sort of elective gastroscopy and reserving gastroscopy only for either acute upper GI bleeding or food bolus obstruction. Radiological tests such as barium swallow and barium meal can be used to look for cancer, however, clinicians should be aware that they are quite limited with poor sensitivity. Even with easing of restrictions, it is unclear how much gastroscopy will restart in the short-term.

2) Colonoscopy

Again, GESA have put out recommendations which were quite restrictive. Now that colonoscopy has been allowed by government again, its use for cancer screening and indications such as FOBT +ve (without recent colonoscopy within 4 years), suspicious PR bleeding, iron deficiency, and investigation of abnormal imaging mean colonoscopy should be performed.

Summary Table

	Condition/procedure	Management
Acute	Perianal sepsis / skin sepsis	No change - Operate
	Thrombosed external haemorrhoids	Covid -ve; no change. Persist with non-operative Mx if Covid +ve
	Necrotic haemorrhoids	No change – Operate
	Diverticulitis	No change – persist with non-operative Mx if Covid +ve
	Colonic PR bleeding	No change.
	Bowel obstruction	No change – treat on merits
	Colitis	No change – persist with non-operative Mx if Covid +ve
	Appendicitis	Covid -ve – no change; Covid +ve consider antibiotics only
	Cholecystitis	Covid -ve – no change; Covid +ve antibiotics only
	Ascending cholangitis	Covid -ve – no change; Covid +ve consider ERCP only
Elective	Perianal surgery	Await easing of restrictions unless to rule out cancer or acute
	Abdominal colonic surgery	Cancer – operative; consider waiting for easing of restrictions
	Inguinal hernias	Repair if symptomatic, consider waiting for easing of restrictions
	Umbilical/incisional hernias	Repair if symptomatic, consider waiting for easing of restrictions
	Other abdominal wall hernias	Generally operate due to risk of strangulation
	Pilonidal surgery	Await easing of restrictions
	Gastroscopy	Generally defer, consider risk to staff
	Colonoscopy	Proceed for IBD management, FOBT +ve, PR bleeding, Fe def, abnormal scans; otherwise consider deferring

If you have questions, please email me on raymondjyap@crsurgery.com.au or call on 8376 6429.