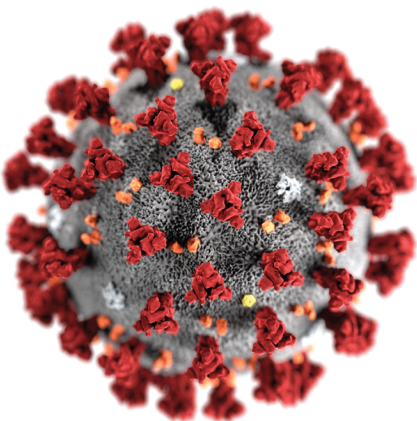




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Interim Guidance on Continuity of Trauma Care Services During COVID 19 Pandemic



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FOREWORD

Trauma due to violence and injuries continue to be experienced in the country requiring the attention of the health care system to reduce complications and mortality. This is occurring against a background of stretched hospital services as a response to the threat of the COVID 19 pandemic. It is therefore prudent to ensure continuity of this essential service is maintained while observing measures that stop the spread of the COVID 19 infection.

Resource usage should be carefully considered during this period when planning scheduled procedures, particularly with regard to materials, staff, devices, intensive care beds and blood components. This is because these are shared resources, which will likely be scarce especially if COVID 19 cases are on the rise.

The intent of this document is to advise health care providers involved in trauma care on factors to consider as the public health and health care sectors learn to adapt to managing injured patients during COVID 19 pandemic and managing injured patients who are infected with COVID-19.

A handwritten signature in blue ink, appearing to read 'Patrick Amoth'.

Dr. Patrick Amoth

Ag. DIRECTOR GENERAL FOR HEALTH

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Managing the injured patient during the COVID-19 pandemic

Introduction

The coronavirus pandemic has placed unprecedented pressure on our health systems and necessitated the need to change how services are organized and provided. Measures need to be put in place to ensure that there is a balance between optimum treatment of a patient's injury or condition against the safety of clinicians and other patients. Efficient planning and use of available resources is highly recommended, as scarcities are likely to be experienced during this period. Different injuries present differently in terms of severity and the information below is to be used as a guide while assessing individual risks of the patient.

Trauma care systems exist to ensure provision of quality and timely lifesaving surgical and critical care interventions. Interventions and best care practices are already well entrenched in our health systems/among the trauma care team. However, the COVID 19 pandemic has introduced new challenges and obstacles to provision of these interventions: limited critical care resources, health workers are exposed to the virus and thus more likely to contract it; about 70% of our patients in Kenya are asymptomatic.

As such the aim of the guideline is to;

1. To maintain access to quality trauma care during the COVID 19 pandemic.
2. Prescribe measures to reduce exposure times for patients and doctors

General considerations for the injured patient

- All trauma patients have a right to timely and high-quality care for their injuries
- Trauma patient evaluation and treatment should not be delayed to determine COVID-19 status but appropriate precautions should be taken. Patients should have samples taken then proceed to surgery as COVID 19 results are awaited.
- During the coronavirus pandemic, there will be increased emphasis on reducing hospital admissions and minimizing length of stay.
- Facilities without the requisite trauma personnel should consider maintaining a contact list of specialists who may be consulted remotely to aid in decision-making, and prevent inadvertent morbidity to patients owing to inappropriate or delayed care



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- For patients who are or may be infected, perform aerosol-generating procedures (AGPs; e.g., intubation/extubation, bronchoscopy, bag masking, electrocauterization, laparoscopy/endoscopy) only while wearing full PPE, including an N95 mask or powered, air-purifying respirator (PAPR).
- Ensure strict and appropriate use of personal protective equipment (PPE) for **ALL** health workers
- All patients should have a mask
- Minimize the number of personnel at the bedside to only those required for direct patient care. Minimum set would be Team leader -Airway, circulation (3) with maximum being 4
- Spine injured patients need emergency or urgent surgery
- The effect of delaying surgery should be critically evaluated
- Administrative controls to include ensuring adequate infrastructure to allow social distancing, facilitated access to COVID-19 testing, training of staff and provision of adequate and appropriate personal protective equipment (PPE).
- Develop a mechanism to monitor the well-being of health workers who have had potential COVID-19 exposure or who are on quarantine.
- When possible, restructure trauma teams and stagger cohorts to reduce the number of trauma/ICU providers in the hospital simultaneously to decrease exposure risk and preserve staff
- Develop redundancy in backup schedules for health workers who may be ill or exposed.
- Use of online platforms for all educative meetings and continuous medical education activities

Principles for outpatient management

- Provide safely spaced waiting areas, assessment and treatment cubicles. These three areas should be segregated. Plan space to store, don and remove personal protection equipment (PPE).
- Take appropriate history including questions about fever, upper respiratory symptoms, COVID-19 exposure history, travel history to history and take appropriate isolation measures
- During a patients first attendance, a consultant should be available to



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ensure decisions are definitive to minimize time spent at outpatient clinics and to ensure subsequent reviews are minimized to the greatest extent possible. Surgeries should be scheduled after input from a consultant.

- Management of patients with minor injuries should be done at the casualty areas
- Patients who potentially need immediate management that requires sedation facilities, such as those with dislocations, may need to remain in the outpatient setting but trauma teams should aim to manage these patients.
- Impact on radiology services should be minimized. Imaging should be requested after the patient has been assessed in the casualty area to minimize requests and avoid repeat imaging. Avoid use of multiple imaging modalities and consider immediate use of the modality most likely to give a definitive diagnosis. CT scanning should be minimized, as this is the investigation of choice for coronavirus pneumonitis.
- Follow-up imaging should only be performed when there is likely to be a significant change in management. There is no role for imaging to check for fracture union in most injuries.
- Use of removable casts or splints should be maximized to reduce follow-up requirements.
- Administrative controls to include ensuring adequate infrastructure to allow social distancing, facilitated access to COVID-19 testing, training of staff and provision of adequate and appropriate personal protective equipment (PPE).
- Develop a mechanism to monitor the well-being of health workers who have had potential COVID-19 exposure or who are on quarantine.
- Rehabilitation services are likely to be very limited. Alternative resources such as written and web-based information can be used.

Specific injury consideration

- Dislocations of native and replaced joints should be reduced in the



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outpatient set up wherever possible. If the joint is stable after reduction, the patient should be discharged with appropriate follow-up.

- Most upper limb fractures, including clavicle, humeral and wrist fractures, have high rates of union and may be managed non-operatively, recognizing that some patients may require late reconstruction.
- Ligamentous injuries of the knee may be managed with bracing in preference to early ligament reconstruction.
- Penetrating injuries (stab wounds) to the extremities without fractures that are not contaminated and have no neurological or vascular deficit may be sutured in the outpatient clinic setting
- Superficial abscesses in patients without systemic sepsis where amenable to local anesthesia, may be incised and drained in the outpatient setting.
- Local wound care with saline or chlorhexidine rinses twice daily for a week will be sufficient for the vast majority of extremity wounds.

Inpatient Management

Appropriate Personal Protective equipment (PPE) should be used for Surgeries involving high-speed devices as they are considered to be an Aerosol Generating Procedure (AGP).

Life and limb threatening injuries

- Patients with multiple injuries, pelvic & acetabular fractures with major hemorrhage, open fractures, compartment syndrome and exsanguinating injury all require emergent resuscitation and management.
- Consider alternative techniques for patients who require soft tissue reconstruction to avoid multiple operations or the need for critical care input (local flaps, intentional deformity, skin grafting for fasciotomy wounds).

Lower limb fragility fractures

- The care of patients with hip and femoral fractures remains urgent and a surgical priority.
- All patients with fractures of the pelvis, acetabulum or lower limb, whether treated non-operatively or with surgery-should be mobilized expeditiously



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to wheelchair- or walker-assisted ambulation immediately to allow rehabilitation, reduce inpatient stay and reduce potential exposure to coronavirus

General orthopaedic trauma

- Patients with complex fractures should have surgery planned to minimize length of stay
- Consider day-case treatment of simple peri-articular fractures and foot & ankle injuries. Where possible, use non-operative treatment and removable splints, recognizing that some may require later reconstruction.
- Manage patients with upper limb fractures that require surgery (e.g. forearm fractures) as day cases.
- Wrist fractures amenable to conservative treatment may be treated with removable casts or splints to reduce unnecessary follow-up.
- Use absorbable sutures and warn patients of the small risk of a mild inflammatory reaction to the sutures.

Other Orthopaedic emergencies

- Patients with spinal cord compression including cauda equina syndrome require emergency treatment.
- Patients with septic arthritis, prosthetic joint infection or infected fractures and features of systemic sepsis require emergency treatment. Those who are not septic may be managed as outpatients in appropriate clinics.

Management of the Injured Child

During the COVID 19 pandemic, the goal of management of the injured child is to provide essential care with high quality while emphasis is on management that is non-operative strategies and to minimize outpatient visits;

Consider the possibility of non-accidental injury and inform the relevant authority

General principles

- If necessary, children with the following suspected diagnoses may be managed without radiology at presentation:
 - Soft tissue injuries.



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- Wrist, forearm, clavicle and proximal humeral fractures.
- Long bone fractures with clinical deformity.
- Foot fractures without significant clinical deformity and swelling.
- Lower limb injury in a patient who is able to weight bear
- Many children's injuries may be definitively managed in a cast at presentation.
- Assess for injuries that may be treated without a cast such as knee ligament and patellar injuries that may be managed with bracing.
- Most children who require operative management may have surgery as a day-case
 - Reduced joint dislocations.
 - Fractures with abnormal neurology or soft tissue compromise that is resolving after treatment.
 - Peri-articular fractures.
 - Extra-articular femoral fractures in children aged under six years (spica cast).
 - Displaced forearm fractures.

Emergency conditions (require review or surgery within 24 hours):

- Non-accidental injury (any child considered to be at risk, or a victim, of abuse should be referred immediately to relevant authorities)
- Suspected septic arthritis/osteomyelitis (osteoarticular infection should always be considered as a differential diagnosis in a febrile child and not be assumed that this is due to Covid-19)
- Children with new neurological dysfunction or limb ischaemia (including suspected compartment syndrome)

Urgent conditions (require review or surgery as soon as possible and within 72 hours):



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- Suspected Slipped Upper Femoral Epiphysis (unless associated with sudden onset leg pain and difficulty weight-bearing, requiring emergency admission)
- Severe pain, which is not responding to standard analgesia
- Exposed metalwork from previous surgery



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References

1. American College of Science. Maintaining Trauma Center Access and Care during the COVID-19 Pandemic: Guidance Document for Trauma Medical Directors.
2. British Orthopaedic Association. Management of patients with urgent orthopaedic conditions and trauma during the coronavirus pandemic.
3. Care of the Critically Ill and Injured During Pandemics and Disasters: CHEST Consensus Statement: Triage <https://www.boa.ac.uk/resources/covid-19-boasts-combined.html>
4. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/caring-for-patients.html>
5. NHS England letter (22nd March 2020):
[https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/PPE- Letter-FINAL-20-March-2020-updated-on-22-March-2020.pdf](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/PPE-Letter-FINAL-20-March-2020-updated-on-22-March-2020.pdf)
6. Orthopaedic Department. CoViD-19 and ortho and trauma surgery: The Italian experience. *Letter to the Editor/Injury* xxx (xxxx) xxx
<https://doi.org/10.1016/j.injury.2020.04.012>
7. https://apps.who.int/iris/bitstream/handle/10665/331498/WHO-2019-nCoV-IPCPPE_use-2020.2-eng.pdf;file:///D:/Ortho/trauma%20in%20covid%2019%20pandemic.pdf
8. <https://www.weforum.org/agenda/2020/04/africa-cannot-lose-doctors-covid-19/>



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