



**A NATION-WIDE
APPROACH TO
RESPOND TO THE
COVID-19 SPREAD
IN LEBANON**

Regional Anesthesia and Chronic Pain Interventions in COVID 19 Pandemic

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Objective



- Provide recommendations on management of COVID 19 patients
 - Regional Anesthesia
 - Interventional pain procedure
- Regional Anesthesia
 - Peripheral blocks
 - Neuraxial blocks
- Interventional Pain Procedures
 - Selection of patients
 - Use of steroids

Regional Anesthesia (RA)



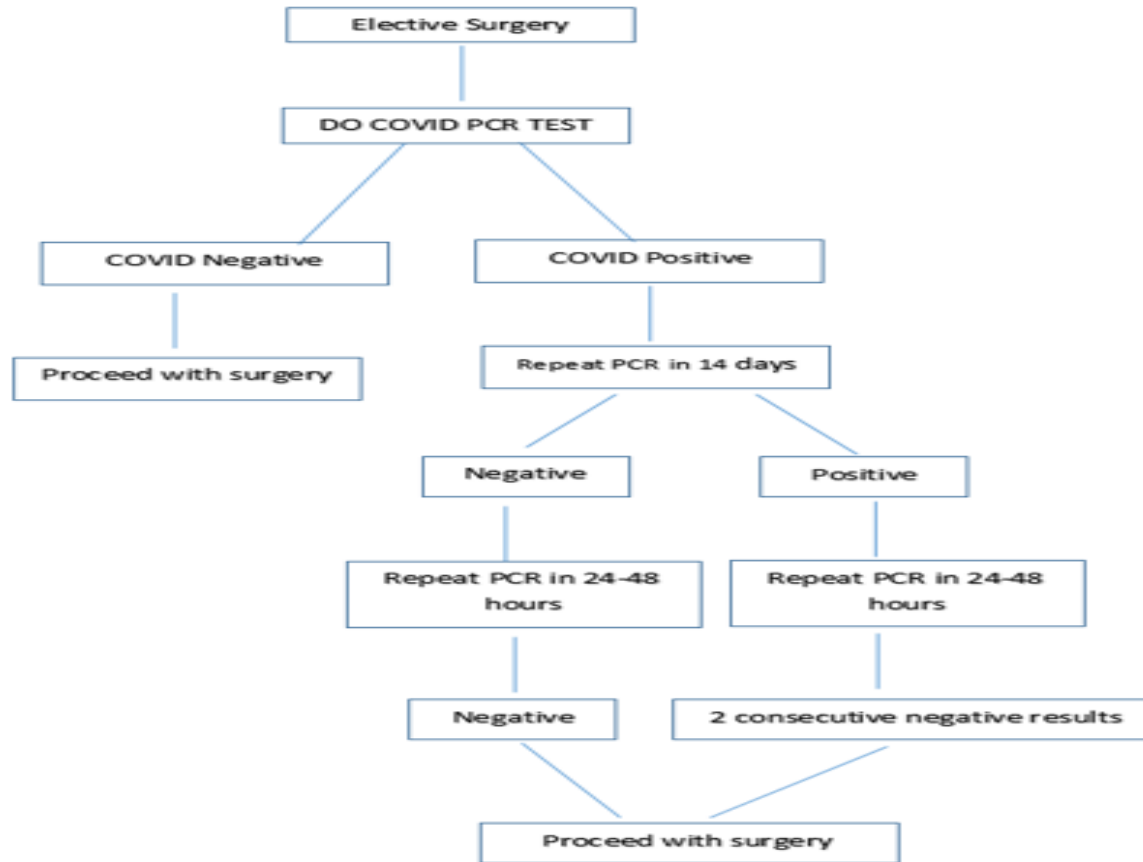
- RA is preferred over general anesthesia
 - Reduces aerosol generating procedures
 - Eliminates the need for airway manipulation
 - Fewer effects on respiratory function
 - Decreases the risk of post-operative pulmonary complications

Scheduling and Planning

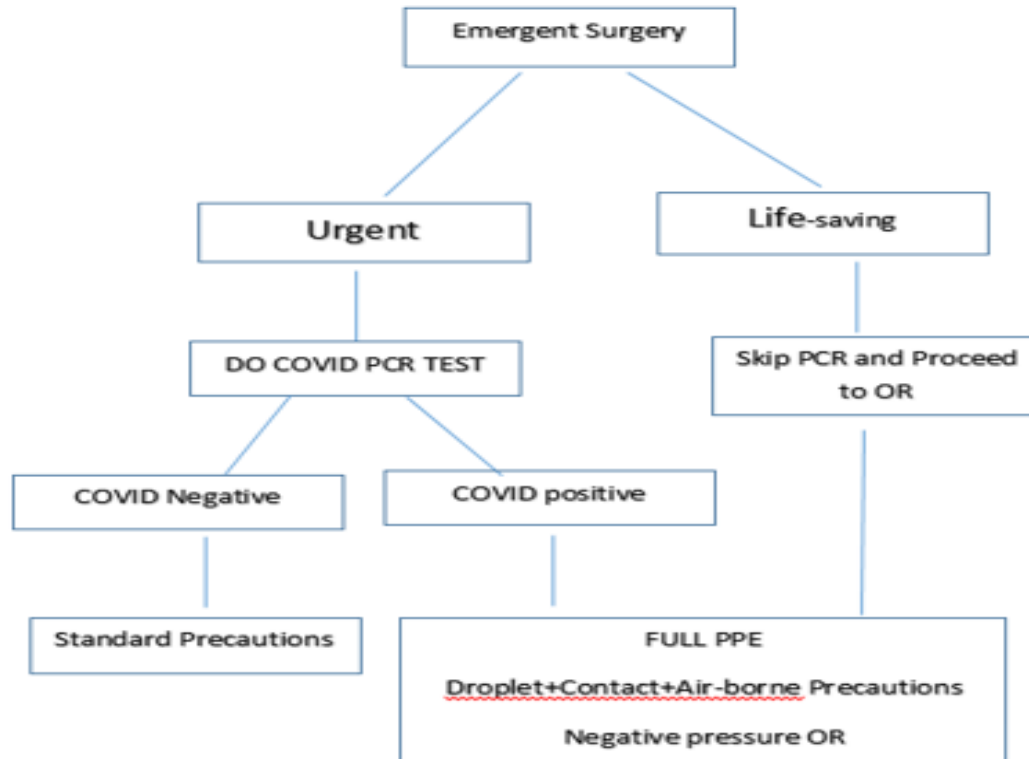


- Planning of RA during the COVID-19 pandemic
 - Determine the COVID status of patients
 - COVID-19 negative patients
 - COVID-19 positive
 - Patient suspected to be positive or (PUI- patient under investigation are considered positive

Algorithm for Elective Surgeries




Algorithms for Non-Elective Surgeries



COVID-19 negative patient



- Regional anesthesia can be provided following usual local institutional guidelines as before the pandemic



COVID-19

Positive or PUI



- Patient are transported directly to the OR using a hooded stretcher
- The OR room should be a COVID designated room equipped with negative pressure
- Procedure should not be performed in the induction
- Most experienced person should perform the block

Operating room



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- Blocks that would compromise respiratory function should be avoided : Interscalene block
- Blocks should be done under ultrasound guidance
- No adjustment in local anesthetic dose is needed
- Blocks should be thoroughly tested prior to surgery
 - Minimize conversion to GA
- Risk- benefit should be considered for continuous catheters
 - Risk of infection

Personal Protective Equipment



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- The donning of personal protective equipment should occur before entering the room
- Contact and droplet precaution includes
 - Surgical face mask
 - Eye protection (face shield or goggles)
 - Surgical gown
 - Two layers of gloves

Personal Protective Equipment



- Use of N95 respirator masks is optional except
 - Operator position is close to the patient's face
 - Relatively longer surgeries
- Patients must wear their surgical facemasks at all times

Oxygen supplementation



- Supplemental oxygen is provided with an oxygen mask
- It is preferred over the nasal prongs : dispersion
- Flow should be kept to a minimum
 - Maintain oxygen saturation
 - Reduce the risk of aerosolization

Oxygen supplementation



- High-flow oxygen nasal cannula is avoided
 - Results in dispersion of droplets and possible aerosol generation
- Surgical mask can be used over the oxygen mask
 - Limit the dispersion of droplets

Simonds AK, Hanak A, Chatwin M, et al. Evaluation of droplet dispersion during non-invasive ventilation, oxygen therapy, nebuliser treatment and chest physiotherapy in clinical practice: implications for management of pandemic influenza and other airborne infections. *Health Technol Assess.* 2010;14:131-72. doi: 10.3310/hta14460-02

Equipment



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- Drugs and materials should be prepared and packed in advance
- Ultrasound machine should also be covered
- A sterile sheath applied to the probe
- Single-use ultrasound gel packets are used
- Ultrasound machine and probe must be disinfected after procedure

Intra-op Monitoring



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- COVID-19 patients generally have respiratory compromise and respiratory monitoring is indicated
 - SaO₂ and End tidal CO₂
- End tidal CO₂ monitoring
 - Using sample line connected to the anesthesia machine
 - Presence of a water trap and a filter eliminates 99.99 % of virus
 - HEPPA filter should be connected if filter is not present
- Respiratory rate could be monitored
 - Impedance plethysmography through EKG

Recovery



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- Patients are recovered in designate areas
- If not available patients are recovered in the operating room until transferred to the COVID unit

Considerations for Neuraxial



- Neuraxial anesthesia is not contraindicated in COVID-19 infected patients
- Preop evaluation
 - R/O Thrombocytopenia
 - Withhold anticoagulants
- Procedure
 - Adequate intrathecal dose should be used
 - Avoid conversion to GA

Management of post-dural puncture headache



- No guidelines exist for COVID 19 positive patients
- Conservative management is preferred
- Postpone blood patch until negative viral titers are obtained
- Refractory or debilitating headaches
 - Epidural blood patch might be considered
 - Check viral titers
 - Consider alternatives : PRBC, Saline

Chronic Pain Patients



- Chronic pain patients are more susceptible to contract COVID 19
- Patient's population consist
 - Elderly patients
 - Immuno-compromised patients
 - Patients on chronic opioids therapy
 - Steroids in interventional pain procedures may cause immunosuppression

Scheduling of Pain Procedures



- Patient should be evaluated prior to scheduling of procedures preferably through telemedicine
- Procedures are evaluated on a case by case basis
- Pain procedure are divided into
 - Elective , Semi urgent , Urgent procedures
- Elective procedure for COVID positive patients should be canceled

Semi Urgent Procedures



- Intractable cancer pain
- Acute Cluster Headaches and other Intractable Headache
- Acute Herpes Zoster or Subacute
- Intractable Post-Herpetic Neuralgia
- Intractable Trigeminal Neuralgia
- Acute Herniated Disc / Worsening Lumbar Radiculopathy
- Early Complex Regional Pain Syndrome

Semi Urgent procedures



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- Evaluate cases on individual basis
 - Deterioration of function
 - Increase in opioids use
 - Decrease risk of exposure
- Decision to proceed is a shared decision with primary physician

Urgent Procedures



- Urgent procedures include
- Intrathecal (IT) pumps
 - IT pumps refill
 - IT battery replacement
 - Higher concentration to decrease refill visit
- Neurostimulators
 - Spinal Cord Stimulation malfunction
 - Explanting of devices due to infection

Steroids



- Increase potential of adrenal insufficiency and decrease immune response
- Magnitude and duration depends on
 - Dose : Immunosuppression is dose-dependent
 - Half-life : Long vs short acting
 - Site of injection

Steroids



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- Cortisol suppression
 - More prominent with longer-acting agents
 - Triamcinolone and methylprednisolone
 - Dexamethasone suppression is less
- Epidural and intra articular injections
 - Hypothalamic-pituitary axis suppression
- Increase of influenza infection with intraarticular corticosteroid injections

Friedly JL, Comstock BA, Heagerty PJ, et al. Systemic effects of epidural steroid injections for spinal stenosis. *Pain*. 2018;159(5):876-83

Steroids



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- Patients must be counseled on the risks of immunosuppression
- Risks and benefits must be weighed on a case-by-case basis
- High-risk patients
 - Reduce dose
 - Dexamethasone is preferred over methylprednisolone

OPIOIDS and COVID 19 Patients



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- Opioids may cause immune suppression
- COVID patients are more susceptible to opioids
 - Respiratory depression
 - Fever increase absorption of transdermal fentanyl
- COVID patients on chronic opioid therapy require
 - Adjustment of their medication
 - Evaluation of opioid side effects
 - Renewal of existing prescription
 - Could be done through telemedicine

Procedural Conduct



- Interventional pain procedures are not aerosol generating
- Low risk patients
 - Negative history of exposure or travel
 - Negative history of fever
 - Negative PCR
- Recommendation
 - Standard contact and droplet precautions

Procedural Conduct



- Patient with positive PCR or PUI
 - Interventions are limited to urgent procedures
 - Weigh risks vs benefits
 - Procedure done in COVID 19 designated area
 - Full protective equipment for contact and droplet precaution
 - Post procedure the patient is transferred to an isolated area for recovery before discharge

Conclusion



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- RA is the preferred anesthetic technique for COVID 19 patients
 - Not aerosol-generating procedure
 - Lower post-operative pulmonary complications
 - Decreases post-operative opioid consumption
- Pain interventions in COVID 19 patients
 - Urgent and semi urgent procedures
 - Steroid dose is decreased
 - Similar procedural conduct to RA

Thank You



WEAR A FACE MASK

Cover mouth and nose, avoid touching mask once it's on.



The Son of a Man / by Rene Magritte



Ministry of Culture and
Information Policy of Ukraine

#ArtOfQuarantine
#FlattenTheCurve