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

PERI-OPERATIVE CONSIDERATIONS for COVID-19 AUBMC Protocols

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Professor and Chair

Department of Anesthesiology

AUBMC

OUTLINE

-Introduction

-Guiding principles

-PAU visit

-OR for COVID-19 negative

-OR for COVID-19 positive

-Exposure of healthcare workers

INTRODUCTION

Reproduction number*: : 2.2 -3.6
(similar to SARS, higher than MERS)

- **Case Fatality**: 2%
(SARS = 10%; MERS = 40%, H1N1= 0.026%)

- Expect final over all percentage to be lower

**Number of cases generated after exposure to one patient*

Meng L, Qiu H, Wan L, et al. Intubation and Ventilation amid the COVID-19 Outbreak: Wuhan's Experience [published online ahead of print, 2020 Mar 19]. *Anesthesiology*. 2020

INTRODUCTION

Mechanism of Transmission

- Contact/droplet
- Airborne during aerosolizing procedures
  - Bag Mask ventilation
  - Non invasive Ventilation
  - Intubation/Extubation
- Possibly in stools (inconclusive evidence)

INTRODUCTION

- Incubation Period: 4-7 days before symptom onset
- Possible transmission during asymptomatic period
- Fever (17% did not present with fever)
- Anosmia, ageusia
- Respiratory symptoms (mainly cough)

INTRODUCTION

- Can rapidly quickly to ARDS-like state
- Silent hypoxemia
- Organ Dysfunction: Cardiac injury (23%)
  Liver Injury (29%)
  AKI (29%)
  Neurocognitive impairments (>1/3 severe)

Meng L, Qiu H, Wan L, et al. Intubation and Ventilation amid the COVID-19 Outbreak: Wuhan's Experience [published online ahead of print, 2020 Mar 19]. *Anesthesiology*. 2020

GUIDING PRINCIPLES

-Protocols (That works for you)

-Communicate (Never enough!)

-Repeat (Simulation is a good tool)

-Audit (And readjust)

PAU VISIT

-Wearing face mask at all times (patient & HCW)
-PCR for all patients
-Extensive screening of patients (symptoms, travel, exposure)

PAU VISIT

-If febrile/symptomatic or any suspicion, refer patient to infection control in your institution and consider postponing surgery

-Rescreen Patient on day of surgery to ensure no new symptoms or risk of developing the disease

PAU VISIT
Preoperative Testing

Patient Safety Resources

- Patient Safety Resources
- Novel Coronavirus (COVID-19) Anesthesia Resource Center
  - Perioperative Considerations for the 2019 Novel Coronavirus (COVID-19)
  - COVID-19 and Anesthesia FAQ
  - FAQ on Anesthesia Machine Use, Protection, and Decontamination During the COVID-19 Pandemic
  - Preoperative COVID Testing: Examples From Around the U.S.

PREOPERATIVE COVID TESTING: EXAMPLES FROM AROUND THE U.S.

Last updated: May 18, 2020

Preoperative COVID Testing:

Examples From Around the U.S. on May 18, 2020

PAU VISIT
Preoperative Testing

-Mandatory PCR testing within 72 hours
-Continues to be challenged by unexpected events
-Limited availability of testing kits and financial strains
-We keep getting requests to expand our 72 hours policy
-Patients get their surgery delayed, do not approve to repeat the test
-Available preoperative COVID testing guidelines in the US are not uniform and vary between different institutions

PAU VISIT
Preoperative Testing

-There were several respected medical centers where the test window is at least 5 days

-MAYO Clinics' guidelines:

1. COVID-19 PCR swab obtained from the nasopharynx is the preferred screening method
2. Best practice to obtain this sample 2 days prior to surgery to ensure timely results as close to the date of surgery as possible
3. If the patient has had a negative PCR within one week of the operative date and remains asymptomatic and interview screen negative, it may be appropriate to not repeat the test

-At NYU: Testing 3-7 days before surgery (preference is for testing closer to 3 days)

-At Tulane Perform Roche test 5-7 days not greater than 9 days pre-operatively

PAU VISIT
Preoperative Testing

-We maintain the 72 hours policy
-We tend to be flexible and not to repeat if the test was negative within the last 7 days and the patient is asymptomatic with a negative interview screen
-In the meantime patients are instructed to maintain self-quarantine once the decision to undergo a surgical procedure is made and especially after the PCR test is done

OR for COVID-19 NEGATIVE

CONTACT AND DROPLET PRECAUTIONS
احتياطات الإتصال والرذاذ

BEFORE ENTERING THE ROOM:	قبل دخول الغرفة:
Clean your hands.	نظف يديك.
Wear the protective gown.	قم بارتداء الرداء الواقي.
Wear face surgical mask.	ضع القناع الواقي للوجه والعينين.
Wear gloves.	إرتد القفازات.
*Wear N95 mask and goggles for aerosol generating procedures [AGP]).	*إرتد قناع التنفس الخاص N95 مع النظارات الواقية لل AGP.

BEFORE LEAVING THE ROOM:	قبل مغادرة الغرفة:
Remove gloves.	قم بنزع القفازات الواقية.
Remove the protective gown.	قم بنزع الرداء الواقي.
Remove surgical mask.	قم بنزع القناع الواقي للوجه والعينين.
Remove goggles and N95 mask.	قم بنزع لتنفس الخاص N95 مع النظارات الواقية لل AGP.
Clean your hands.	نظف يديك.

ALWAYS REMEMBER:
Clean your hands and limit visits to patients.

تذكر جيداً:
التقيد بغسل اليدين والحد من الزيارات.

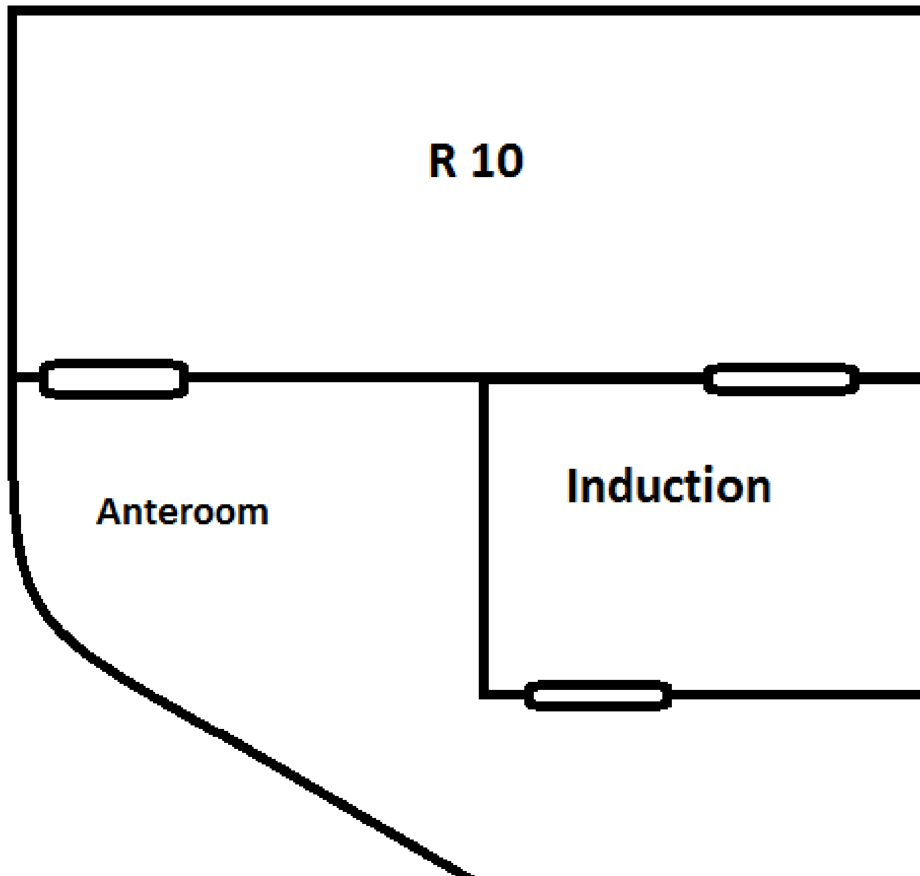
OR for COVID-19 NEGATIVE

-Patient wears face mask at all times
-Only anesthesia team present with full PPE during AGPs (Intubation/extubation)
-Rest of the team back to the room after 4 min (one air change)
-Adopt same precautions for AGPs as for COVID-19 +
-Preference for spinal and regional anesthesia

OR for COVID-19 NEGATIVE

-If emergency, PCR from nasopharyngeal swab
-Surgery is performed in COVID OR with same precautions as COVID-19 + patients
-We proceed before PCR result
-Precautions are eased when PCR is out and is negative

OR for COVID-19 POSITIVE



Department of Anesthesiology and Pain Medicine

AUBMC

<table>
<tr><th colspan="3">Anesthesia COVID OR Checklist</th></tr>
<tr><th></th><th>Anesthesia MD</th><th>Anesthesia Therapist</th></tr>
<tr><td>Preoperative Preparation Phase</td><td>•Review patient clinical information including oxygen requirements IV access and airway exam
•Devise anesthetic plan and communicate with attending/ resident
•Ask for negative pressure hood or plastic intubation box (optional)
•Make sure the patient is wearing a mask over his nasal cannula or under his O_2 mask
•Get personal airborne PPE to induction room</td><td>•Remove glove boxes from wall and place in induction room
•Prepare anesthesia machine and circuit with 3 HEPA filters
•Cover anesthesia machine with plastic sheet
•Ensure hand gel, disinfecting wipes and a bunch of different size gloves present on machine on top of plastic sheet or on anesthesia stainless steel table.
•Place trolley in anteroom
•Get store supplies and keep in anteroom room
•Get glidescope, keep covered in OR
•Get medication kit and keep in anteroom
•Get plastic protection sheet (2x2m) for intubation/ extubation
•Get negative pressure hood setup or plastic intubation box according to attending request
•Prepare contaminated equipment bag for airway equipment
•Get personal airborne PPE to induction room</td></tr>
<tr><td>In Induction Room/ anteroom</td><td>•Brief each other of anesthesia plan including airway plan and backup airway plan and equipment
•Prepare medication syringes to take to the OR. Take extra empty syringes, NSS vials and gauze with you for the OR (in anteroom).
•Don PPE
•Verify therapist PPE</td><td>•Brief each other of anesthesia plan including airway plan and backup airway plan and equipment
•Don PPE
•Verify resident/attending PPE</td></tr>
<tr><td>Note</td><td colspan="2">Take to the operating room ONLY what is necessary. Keep the rest in the anteroom</td></tr>
<tr><td>In OR Induction Phase</td><td>•Make sure all personnel are out of the room
•Prepare ventilator settings
•Preoxygenate 5 min with low gas flows and 2 handed technique with good seal
•RSI with lidocaine, succ or roc (roc preferred)
•Give opioid after paralysis if needed
•Use glidescope at first attempt
•Consider being apneic yourself during intubation
•Verify tube depth
•Do not auscultate, verify capnography
•Avoid placing oral airway or suction catheter
•Discard soiled gloves immediately and don new set of gloves after hand hygiene</td><td>•Make sure all personnel are out of the room
•Place stylet in ETT
•Have oral airway and wet gauze ready in case of need for rescue ventilation
•Pause fresh gas flow for intubation
•Inflate cuff as soon as tube inserted then connect circuit, then restart gas flow
•Dispose of blade immediately in dedicated contaminated equipment bag
•Secure ETT with tape
•Discard soiled gloves and immediately don new set of gloves after hand hygiene</td></tr>
<tr><td>Note</td><td colspan="2">Do not leave the OR until end of the case and the patient has left the OR.
If anything is needed from outside the OR it should be placed in the induction room by the runner auxiliary anesthesia therapist designated for that task for you to retrieve. The runner wears droplet precaution PPE and should leave the induction room before the OR team comes in for retrieval</td></tr>
<tr><td>In OR during maintenance</td><td>•Call in nursing team 4 minutes after ETT cuff up
•Wipe down work surfaces with disinfecting wipes</td><td>•Call in nursing team 4 minutes after ETT cuff up
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<tr><td>In OR emergence</td><td>•Make sure all personnel are out of the room
•Cover patient head with plastic sheet/hood/box
•If using postop nasal cannula place it before extubation
•Give lidocaine prior to extubation and consider extubating under remifentanil or dexmedetomidine
•Place face mask immediately after removal of tube with 2 handed technique and good seal</td><td>•Make sure all personnel are out of the room
•Cover patient head with plastic sheet/hood/box
•When ready pause gas flow, deflate cuff and remove tube slowly
•Restart gas flow when face mask is placed appropriately</td></tr>
<tr><td>Recovery</td><td>•Call recovery room nurse 30 min prior to end of surgery (non-ICU patient)
•Recover patient in the operating room
•Immediately place surgical face mask on top of nasal cannula or under O_2 face mask
•Call covid unit for handover
•ICU patients will be transferred directly to ICU. A covid transport team will be responsible for transporting patients to and from the covid ICU
•Discard gloves, gown, goggles and protective surgical mask in OR
Discard Tyvek and N95 in induction room</td><td>•The anesthesia therapist will wait 30 minutes of stable recovery time to proceed with following:
•Discard all unused items in the OR
•Discard circuit, HEPA filters, Soda lime, D-fend and capnography line without removing plastic cover
•Recovery room nurse will discard plastic cover, clean cables, monitor prior to leaving
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<tr><td>Post recovery</td><td colspan="2">Proceed to shower and consider disinfecting nose mouth and ears with povidone iodine 1% solution
Cleaning team to enter the OR 12 minutes after the patient has left</td></tr>
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OR for COVID-19 POSITIVE

Department of Anesthesiology and Pain Medicine

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OR for COVID-19 POSITIVE

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OR for COVID-19 POSITIVE

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OR for COVID-19 POSITIVE

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OR for COVID-19 POSITIVE

https://www.aub.edu.lb/fm/Anesthesiology/Pages/Covid-Outbreak.aspx

EXPOSURE of HCWs

-Close collaboration with infection control and UHS

-The Employee Health Unit follows the CDC guidance for return to work of Health Care Workers (HCW) and exposure risk assessments:

- https://www.cdc.gov/coronavirus/2019-ncov/hcp/return-to-work.html
- https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assesment-hcp.html

EXPOSURE of HCWs

EXPOSURE RISK ASSESSMENT

-Contact tracing will no longer be performed

-Employee Health Unit staff always available for counseling

-Will refer for PCR testing when indicated (high-risk exposure)

-HCW with any levels of exposure will not be excluded from work

-They will continue working with masks unless they develop symptoms

-They will then be referred for PCR testing after contacting EHU

EXPOSURE of HCWs

Emphasize **STRICT ADHERENCE TO INFECTION PREVENTION AND CONTROL** measures

For **regular patient care**:

- HCW and patients should be **wearing facemasks at all times**
- If the **patient is unable to wear a facemask**, HCW should protect their eyes with a **face shield/goggles**

For **aerosol generating procedures:**

- HCW should be wearing all recommended PPE (gown, gloves, eye protection, N95)

EXPOSURE of HCWs

RETURN TO WORK:

-Symptom-based strategy, except for a few cases (severe immunosuppression)

-The time period used depends on the HCW's severity of illness and if they are severely immunocompromised

-Test-based strategy will no longer be utilized, it is no longer recommended because, in the majority of cases, it results in excluding from work HCW who continue to shed detectable SARS-CoV-2 RNA but are no longer infectious

EXPOSURE of HCWs

RETURN TO WORK:

HCW with asymptomatic illness who are not severely immunocompromised:

- At least 10 days have passed since the date of their first positive viral diagnostic test

HCW with mild to moderate illness who are not severely immunocompromised:

- At least 10 days have passed *since symptoms first appeared* **and**
- At least 24 hours have passed *since last* fever without the use of fever-reducing medications **and**
- Symptoms (e.g., cough, shortness of breath) have improved

HCW with severe to critical illness or who are severely immunocompromised:

  - At least 20 days have passed *since symptoms first appeared*
  - At least 24 hours have passed *since last* fever without the use of fever-reducing medications **and**
  - Symptoms (e.g., cough, shortness of breath) have improved

CONCLUSIONS

الخط الساخن:
1214
01594459

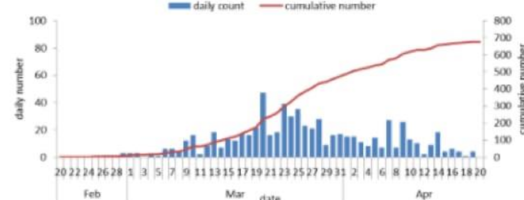
ترصد عدوى الكوفيد 19 في لبنان

الجمهورية اللبنانية
وزارة الصحة العامة

21 نيسان 2020

العدد التراكمي للحالات المثبتة في لبنان منذ 21 شباط 2020	677
عدد الحالات الجديدة التي سجلت بين المقيمين خلال 24 ساعة المنصرمة	0
عدد الحالات الجديدة التي سجلت بين الوافدين خلال 24 ساعة المنصرمة	0
العدد التراكمي للوفيات في لبنان منذ 21 شباط 2020	21
حالة وفاة خلال 24 ساعة المنصرمة	0

رسم بياني لتوزيع الحالات حسب اليوم



جدول تفصيل الاعداد

	المقيمين	الوافدين عند الوصول
عدد الفحوصات التي اجريت خلال 24 ساعة المنصرمة (تم اجراءها في 9 مختبرات* خلال فترة الاعياد)	487	8
عدد الحالات الجديدة التي سجلت خلال 24 ساعة المنصرمة	0	0

*المختبرات: م. رفيق الحريري الجامعي الحكومي، م. الجامعة الاميركية، م. هيكل، م. دار الامل، مختبر المشرق، م. الروم، مختبر إينوفي، م. سرحال

من توصيات وزارة الصحة العامة:

- العزل/الحجر المنزلي
- أهمية غسل اليدين
- آداب السعال
- تجنب لمس العينين والانف والفم
- تجنب الاقتراب من أي شخص مريض
- تجنب الاماكن المزدحمة والتجمعات

النصائح المتعلقة بالتباعد الاجتماعي

- الحرص على التباعد الاجتماعي عن طريق الالتزام الصارم بترك مسافة لا تقل عن متر واحد (3 أقدام) بين الأشخاص في جميع الأوقات.
- اتباع أساليب التحية المقبولة ثقافيا ودينيا التي تستبعد الملامسة. نذكر منها التلويح، الإيماء، وضع اليد على القلب ...
- تجنب تجمع أعداد كبيرة من الأشخاص في ذات المكان. نذكر منها الأماكن المرتبطة بالأنشطة الرمضانية، مثل أماكن الترفيه والأسواق والمحلات التجارية

CONCLUSIONS

فيروس كورونا COVID-19
الجمهورية اللبنانية وزارة الإعلام

بالتعاون مع الجمهورية اللبنانية وزارة الصحة العامة وحدة إدارة الكوارث

آخر الإحصاءات

آخر تحديث Sep 06, 19:45

415 العدد اليومي	20426 العدد الإجمالي
396 العدد اليومي (مقيمين)	19 العدد اليومي (وافدين)
1241 إجمالي اصابات الوافدين	14096 عدد المصابين حالياً
106 حالات حرجة	191 وفيات

CONCLUSIONS

-Ever changing scenery

-Ongoing updates and protocol adjustments

-Protocols, checklists and infographics are very useful

-Collaboration between department and different healthcare providers

-Appropriate communication channels to secure an adequate flow of info and updates

THANK YOU