1. Preparing an obstetric unit during the COVID-19 epidemic

NB The information below is taken from a new paper currently **in press** in *The Journal of Maternal-Fetal and Neonatal Medicine* and is provided by the kind permission of the Editor-in-Chief and the Publishers as a special and generous concession because of the urgency in addressing the current COVID-19 epidemic. It is entitled:

Preparing an obstetric unit in the heart of the epidemic strike of COVID-19: quick reorganization tips

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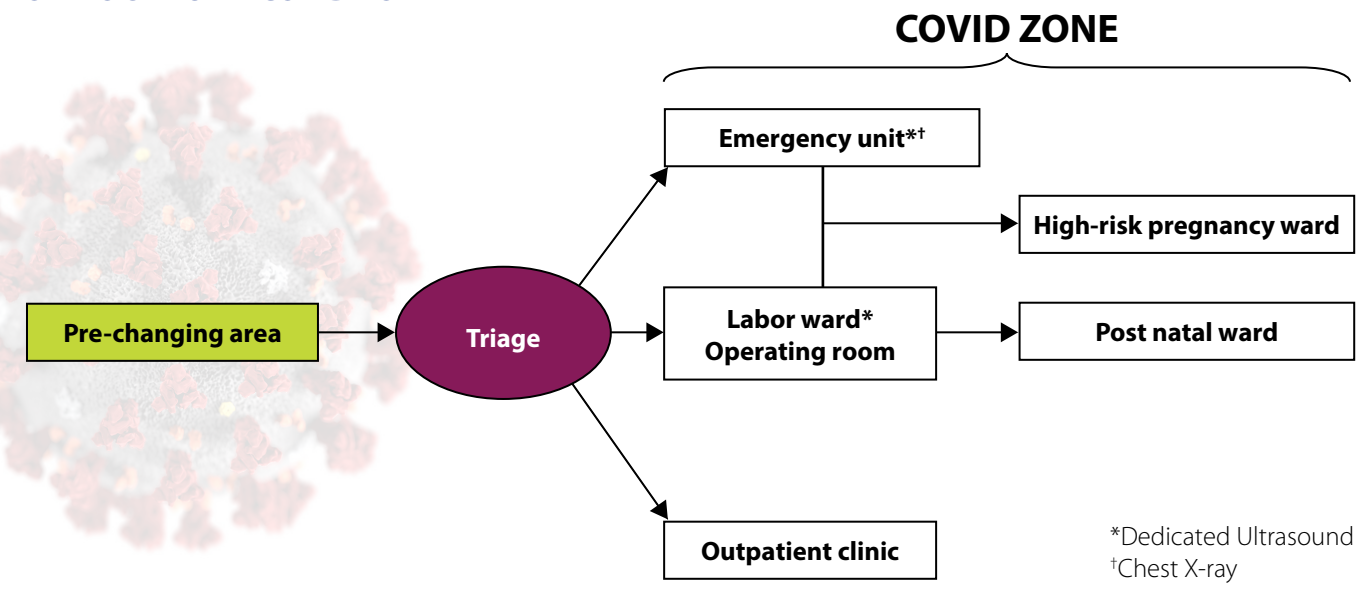
To read the full paper when it is published ***click here***

It is fundamental to separate COVID + and COVID – in the local setting and mandatory to achieve a **closed circuit** for all **COVID + patients**. Emergency ward, admission, lift, corridor, labor ward, outpatient clinic, ultrasound department, high-risk pregnancy ward, operating theater must have a clear area defined as **"COVID ZONE"**.

HOW TO SET UP A COVID ZONE



All these units must have entirely separate tracks for COVID + and COVID -.

The **COVID+ ZONE** is a separate area with isolated rooms, and can be identified as a "second level" of care, if required, walls must be built, in order to allow for separation.

Internal policies must be adapted.

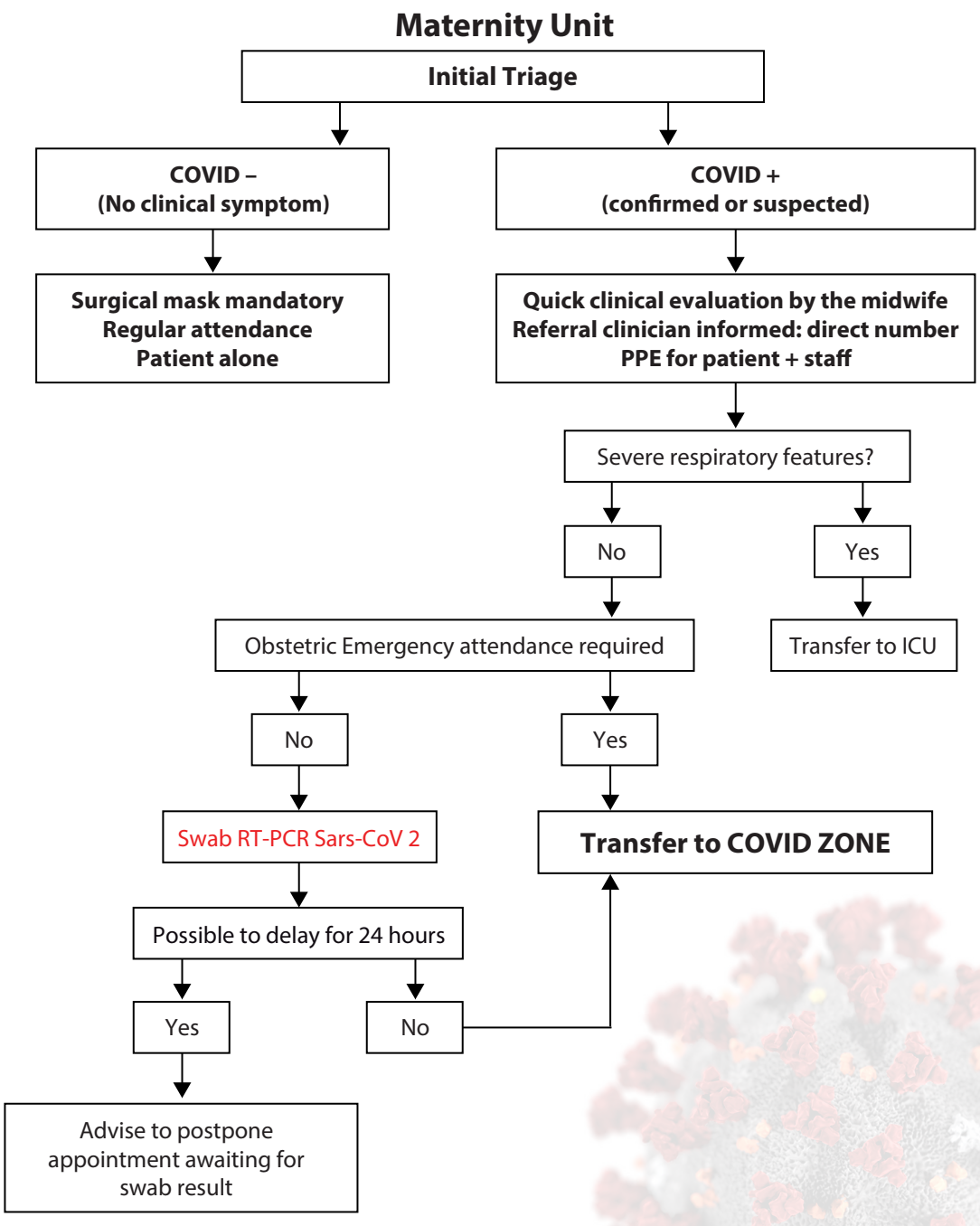
A **COVID+ ZONE** must have its own material/supply which should preferably not be moved to a COVID- ZONE unless it is necessary.

A COVID transportation policy must be clarified and avoid any interaction with other people, specifically droplet and contact precautions.

For personnel doing shifts in COVID + wards, it is important to limit shift duration to a maximum of 6 hours. Personnel in these wards must scrub out entirely in order to drink, use the bathroom, eat, etc as none of these activities may be carried out with PPE. Healthcare teams need to be split and rotate periodically, in order to keep part of the workforce home (to rest, but also to avoid infecting the entire team simultaneously) while the rest carry out necessary hospital duties.

Two groups must be put in place: one for the COVID- area and one for the COVID+ zone. Changing shifts between the 2 groups must be arranged weekly or every 15 days.

ALGORITHM FOR PREGNANT PATIENTS ATTENDING MATERNITY UNIT



Ultrasound unit/ Imaging

- Reschedule all regular appointments if not necessary.
- Make a list for strict indications for scan.
- Avoid invasive procedure (CVS, amniocentesis) for COVID + patients.
- Cover probe with plastic and disinfect before/after use.
- PPE for sonographer and write report in same room.
- Set appointments with the largest interval possible.
- Current data suggest that Sars-Cov 2 does not cross the placenta. It seems there is no effect of the virus on fetal development.

Antenatal ward

- Beware of steroid use because it has been reported that this could aggravate the disease. Only use when potential benefits far outweigh the risks.
- Fetal monitoring only when necessary.
- Weekly multi-disciplinary meetings and individualized decisions according to the situation.
- Fever or suspected chorioamninitis should be taken with extreme caution as may trigger delivery.
- Respiratory deterioration may prompt delivery based on individual cases.
- Timing and mode of delivery should be individualized.
- Shorten hospital stay as much as possible.
- Implement telemedicine follow-up.

Outpatient clinic

- Cancel/ postpone all attendance if non-essential.
- Redirect if possible, to a private obstetrician/gynecologist or a community midwife.
- Implement telemedicine.
- PPE for midwife/ obstetrician in close contact.
- Ultrasound dedicated for the COVID ZON.
- Triage for low-risk and high-risk pregnancy.

Labor ward/induction of labor

- Consider obstetric assistance for vaginal birth as "assistance maneuvers that can produce aerosols": use FFP2 / FFP3 facial filters, disposable water-repellent TNT long-sleeved gown, double gloves, visor / goggles, disposable headgear, shoes and proceed for disposal in accordance with the appropriate standards.
- Surgical mask for patient. Allow removal of mask for pushing.
- Partner allowed following internal policies, preferably not.
- For COVID + patients, indication for labor induction must be individualized and postponed if possible.
- For COVID + and need for induction, one line of cervical ripening advised and preferably following a protocol for «quick induction» (e.g. balloon /dilapan/ amniorexis + oxytocin).
- Routine labor management, active management may be required depending on maternal condition.
- Intrapartum fever or suspected chorioamnionitis should be considered with extreme caution and delivery expedited.
- Epidural / spinal analgesia not contraindicated.
- Continuous fetal monitoring (given that a higher incidence of fetal distress in labor has been reported).
- C-section or instrumental deliveries for obstetric indication or deterioration of maternal condition only.
- If maternal health deteriorates, a caesarean section may be necessary.
- If the pregnant woman is symptomatic, the risks / benefits of proceeding as soon as possible performing cesarean section (maximum 37 weeks completed if elective) should be evaluated in order to allow better control of lung function and also the possible administration of antivirals and anti-citokines agents.
- No presence of father or family member at birth, no skin to skin.
- Perform early clamping of the cord (the double distal clamp and the double proximal clamp allows to have an intact cord section for sampling).
- Ensure the presence of the neonatologist at delivery.
- Do not aspirate with a suction device.
- Allow breastfeeding with mask (if no symptoms or paucisymptomatic).

Data: There are no reported cases of vertical transmission.

Post natal ward

- PPE for staff.
- Surgical mask for patient.
- Limited visiting time for partner/support person* only (internal policy) * If COVID+: no visit.
- Routine post-partum care.
- Avoid certain groups of NSAIDs.
- Allow breastfeeding with mask in mildly symptomatic mothers.
- Babies born to suspected or confirmed COVID-19 mothers should be tested.
- Encourage early discharge in mildly symptomatic, otherwise healthy patients, with home care and isolation guidance.
- Neonatal monitoring and follow-up after discharge.
- Advise patient to call clinic for triage if worsening symptoms.
- Community midwife informed.