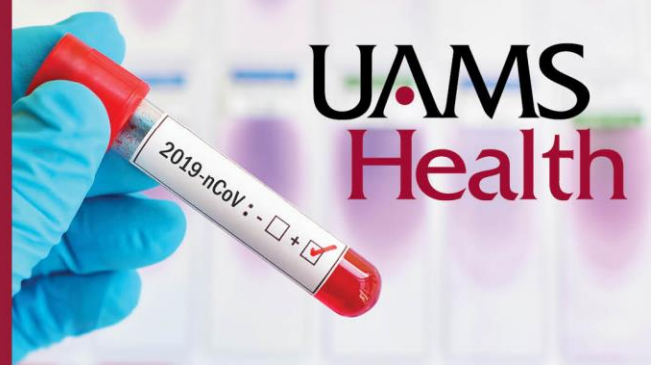


COVID-19

COVID-19 in Pregnancy: For Healthcare Providers

MARCH 19, 2020



Our knowledge of COVID-19 is changing daily. Do to this, these guidelines will likely be subject to frequent modification.

What is COVID-19

- Large, single-stranded RNA virus
- Appearance of a crown (“corona” in Latin) on electron microscopy
- First reported in December 2019 in Wuhan, China
- Likely zoonotic in origin as it closely resembles bat coronavirus

How is COVID-19 Spread

- It is spread person to person via
 - Airborne droplets
 - Direct contact with bodily fluids
 - Feces?

Symptoms (including but not limited to)

- Fever
- Cough
- Shortness of breath
- Fatigue
- Sputum production
- Headache
- Sore Throat

Emergency Warning Signs

- Difficulty breathing
- Persistent chest pain
- Confusion/lethargy
- Cyanosis

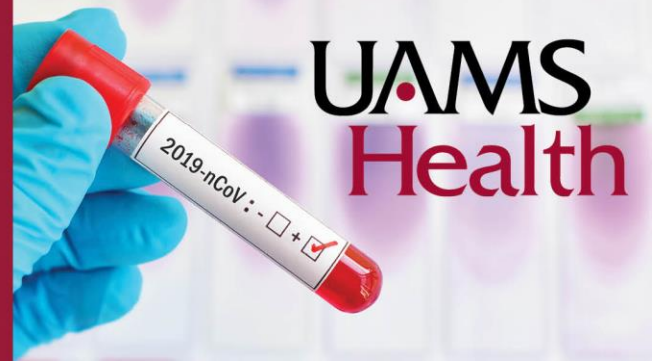
Treatment

- Supportive care
- Fluid resuscitation
- Electrolyte optimization
- Respiratory support as indicated
 - Early intubation
 - NIPPV not recommended due to aerosolization
- Drugs reserved for severe cases
 - Remdesivir

COVID-19

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- Potent antiviral
- Compassionate use
- Chloroquine
 - Broad spectrum antiviral
 - Apparent efficacy in treating COVID-19 associated pneumonia

Management Specific to Pregnancy

- In two cases series (total of 18 pregnant patients) only 1 pregnant patient required mechanical ventilation
- It does not appear that women are at increased risk in pregnancy
- It does not appear that women are at increased risk of spontaneous abortion or IUFD
- Pregnant women can continue working in healthcare setting with proper precautions
 - Hand washing, limit exposure, PPE when indicated
- COVID-19 is not an indication for delivery or for primary cesarean section.
- Continuous fetal monitoring in the setting of severe illness should only occur when delivery would NOT compromise maternal health. In a critically ill patient, the health of the mother should always be the priority.
- Anecdotal reports and expert opinion suggest improved outcomes with prone positioning in severe cases.
 - Gravid abdomen can be cushioned to allow for this
- Steroid administration
 - Indicated delivery should not be delayed for steroid effect
 - Each patient should be evaluated on a case by case basis. Care should be taken in giving steroids to critically ill patients. Risks vs benefits must be weighed.
- We are unsure if vertical transmission occurs

Breastfeeding

- Women who deliver who are confirmed or suspected to have COVID-19 CAN breastfeed.
- However, physical separation of mother/baby unit if feasible. Breastmilk should be expressed and then bottle fed to infant by an unaffected family or staff member.
- If unable to separate mother and baby, mother should practice stringent hand hygiene and wear a mask while breastfeeding.

Use of Nitrous Oxide on L&D

- Currently discouraged do to risk of aerosolization
- Not currently being offered at UAMS

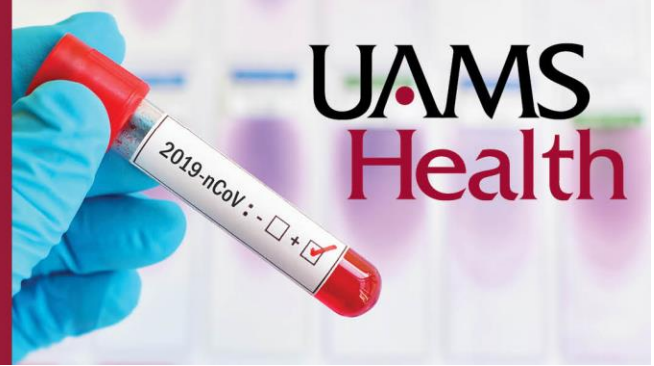
Medical Comorbidities That Could Impact COVID-19 in Pregnancy

- Immuno-compromised/suppressed
 - Transplant
 - Inflammatory Bowel Disease or Rheumatologic Disease

COVID-19

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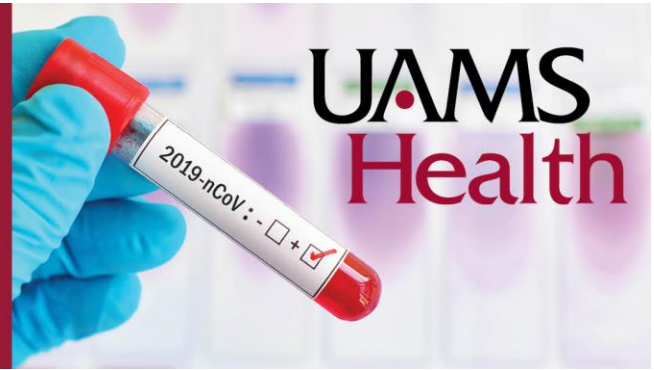


- Active treatment with biologics
 - Prednisone >20mg/d
- Class III Obesity
- Insulin Dependent or Poorly Controlled Diabetes
- Maternal Cardiac Disease
- Hypertension disease in pregnancy requiring medical therapy
- Renal insufficiency
- Moderate/Severe Respiratory Disease:
 - i.e. Asthma requiring treatment, CF
- Neurologic Disease
 - Parkinson's, ALS, spinal cord injury, seizure, CVA
- Active cancer

COVID-19

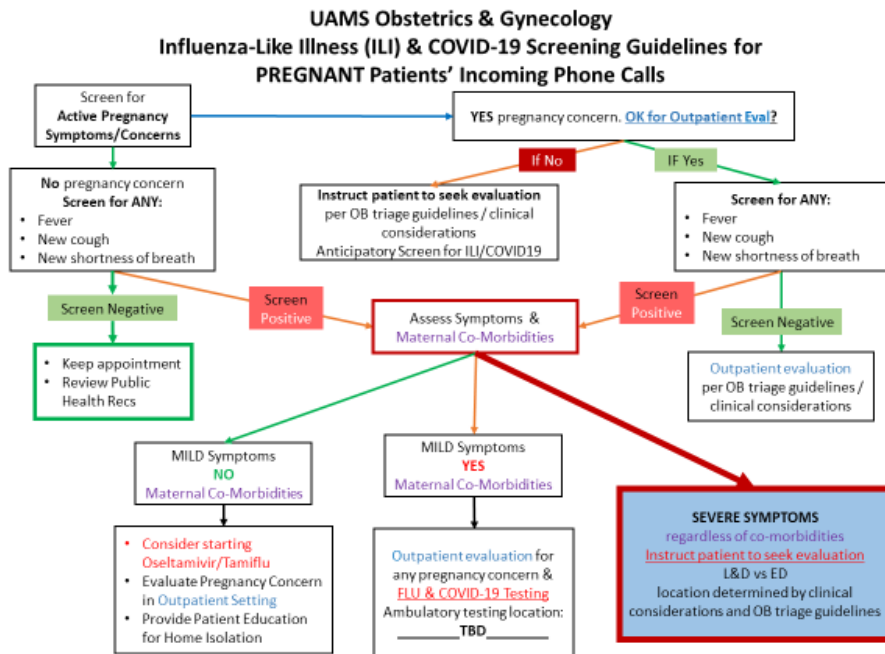
COVID-19 in Pregnancy: For Healthcare Providers

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UAMS Health

UAMS OB Triage Guidelines

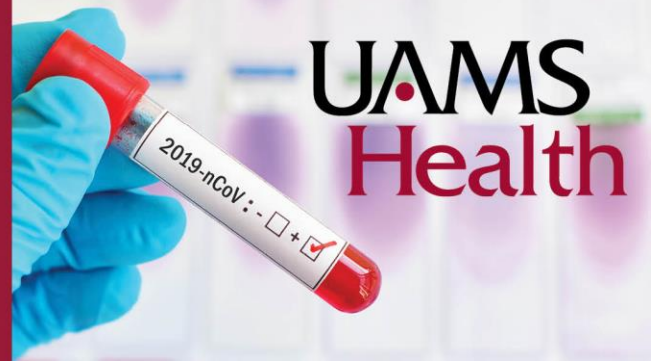


Modified from University of Washington protocols

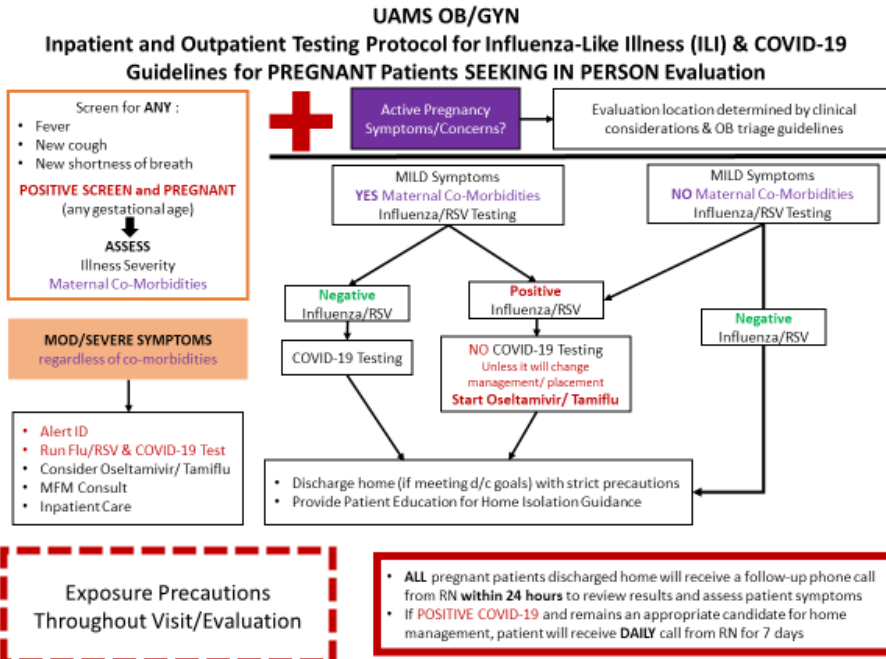
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UAMS OB Testing Protocol

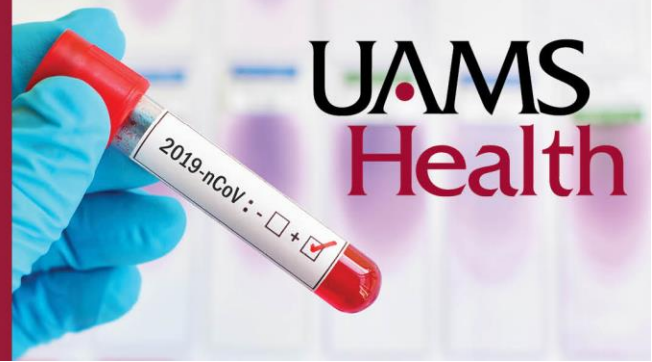


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UAMS Inpatient Protocol

Guidance for Patients Being Tested for COVID-19 that Require Hospitalization

Moderate Risk for COVID-19

- Symptoms consistent with COVID-19 (fever, cough, myalgias, shortness of breath, leukopenia/lymphopenia, abnormal CXR) with:
 - Negative flu test
 - No recent travel outside Arkansas
 - No known exposure to individual with confirmed COVID-19
- This patient will be considered a person under investigation (PUI)
- COVID-19 PCR should be collected using sterile saline NP swab; PUI form must be completed; should be sent to Arkansas Department of Health (ADH)
- The patient will be followed by infection prevention
- Patients chart will be flagged as "COVID-19 Suspected Moderate Risk" patient
- Admitted to home unit (E7 Exception)

High Risk for COVID-19

- Symptoms consistent with COVID-19 (fever, cough, myalgias, Shortness of breath) with negative flu test, and one of the following
 - Known exposure to individual that tested positive for COVID-19
 - Known travel outside of Arkansas in the last 14 days
 - Special Populations
- This patient will be considered a person under investigation (PUI)
- COVID-19 PCR should be collected using sterile saline NP swab; PUI form must be completed; should be sent to Arkansas Department of Health (ADH)
- The patient will be followed by infection prevention
- Patients chart will be flagged as "COVID-19 Suspected High Risk" patient
- Admitted/transferred to E4 or A7 or A4 depending on level of care needed

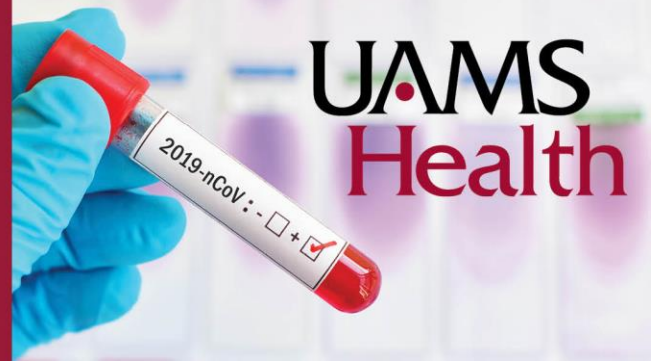
Confirmed with COVID-19 – COVID-19 confirmed by PCR testing

- The patient will be followed by ADH
- The patient will be followed by infection prevention
- Patients chart will be flagged as "COVID-19 Confirmed" patient
- Admitted/transferred to E4 or A7 or A4 depending on level of care needed

COVID-19

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Care of the Patient being tested for COVID-19

Moderate Risk for COVID-19

- Inpatient Unit: Can be admitted to any inpatient unit except E7
- Isolation: Contact and droplet + eye protection (i.e. goggles, face shield)
 - **Gown**
 - **Gloves**
 - **Eye Protection** (i.e. goggles, face shield)
 - **Surgical/Procedural Mask**
 - **Aerosolizing procedures only: N95 or CAPR (negative pressure room required)**
- Negative Pressure: Patient should be placed in a negative pressure room if patient will require an aerosol generating procedure (Collecting nasopharyngeal swabs does not require airborne precautions)
- Visitor: Patient can have one visitor but patient must be masked (if unable to mask patient visitor should be masked; use surgical/procedural mask)
- Meal Tray: Any Patient being tested for COVID-19 must have the "Disposables Only-Do Not Enter" option attached to their diet order. Meal trays should be delivered in Styrofoam and nutritional personnel should not enter room
- Transferring Patient: Patient must be masked, caregiver should not wear PPE unless care is needed during transport
- Cleaning: Upon discharge/transfer door should remain closed and sit for one hour prior to cleaning; special cleaning products not necessary
- Pregnant Caregivers: Not allowed

High Risk for COVID-19

- Inpatient Unit: Patients will be admitted/transferred to A7, A4, or E4
- Isolation: Contact and droplet + eye protection (i.e. goggles, face shield)
 - **Gown**
 - **Gloves**
 - **Eye Protection** (i.e. goggles, face shield)
 - **Surgical/Procedural Mask**
 - **Aerosolizing procedures only: N95 or CAPR**
- Negative Pressure: Patient should be placed in a negative pressure room
- Visitor: Not allowed

- Meal Tray: Any Patient being tested for COVID-19 must have the "Disposables Only-Do Not Enter" option attached to their diet order. Meal trays should be delivered in Styrofoam and nutritional personnel should not enter room
- Transferring Patient: Patient must be masked, caregiver should not wear PPE unless care is needed during transport
- Cleaning: Upon discharge/transfer door should remain closed and sit for one hour prior to cleaning; special cleaning products not necessary
- Pregnant Caregivers: Not allowed

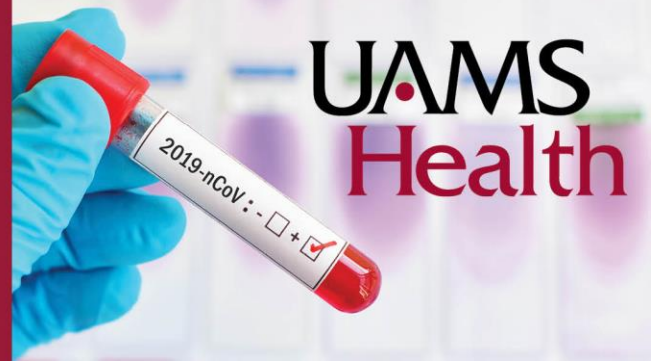
Confirmed Patient with COVID-19

- Inpatient Unit: Patients will be admitted/transferred to A7, A4, or E4
- Isolation: Contact and airborne + eye protection
 - **Gown**
 - **Gloves**
 - **Eye Protection** (i.e. goggles, face shield)
 - **N95 or CAPR**
- Negative Pressure: Patient should be placed in a negative pressure room
- Visitor: Not allowed
- Meal Tray: Any Patient being tested for COVID-19 must have the "Disposables Only-Do Not Enter" option attached to their diet order. Meal trays should be delivered in Styrofoam and nutritional personnel should not enter room
- Transferring Patient: Patient must not be transferred unless ABSOLUTELY NECESSARY. Patient should be masked, caregiver pushing bed should wear gown and gloves (if care is needed during transport additional PPE should be worn). There should be caregiver directing traffic with no PPE that will push elevator buttons etc.
- Cleaning: Upon discharge/transfer door should remain closed and sit for one hour prior to cleaning; special cleaning products not necessary.
- Pregnant Caregivers: Not allowed

COVID-19

COVID-19 in Pregnancy: For Healthcare Providers

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UAMS COVID EVALUATION Guidelines for Risk Stratification/Testing/Placement/Isolation

All patients undergoing testing for COVID-19 should be on droplet/contact isolation with eye protection.

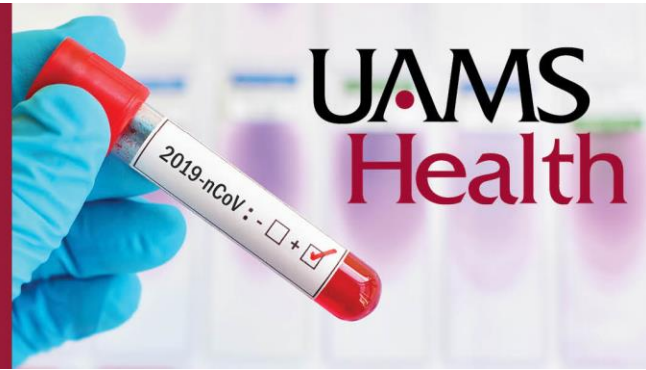
Risk for COVID-19	Presentation	COVID-19 PCR Recommended	Placement	Isolation ⁴
Normal Risk	No clinical symptoms suggestive of COVID-19 (fever, cough, myalgias, shortness of breath)	No	Normal Placement	Standard Precautions
Low Risk	Respiratory symptoms due to <ul style="list-style-type: none">noninfectious cause (No leukopenia, fever)infection other than COVID-19 (ie flu or known chronic lung infections)	No	Normal Placement	Droplet/Contact Precautions
Moderate Risk	Symptoms consistent with COVID-19 (fever, cough, myalgias, shortness of breath, leukopenia/lymphopenia, abnormal CXR) with: <ul style="list-style-type: none">Negative flu testNo recent travel outside ArkansasNo known exposure to individual with confirmed COVID-19	Yes In House Test	Normal Placement except E7 ¹	Droplet/Contact Precautions with Eye Protection (Airborne precautions for aerosolizing procedures ²)
High Risk	Symptoms consistent with COVID-19 (fever, cough, myalgias, Shortness of breath) with negative flu test, and one of the following <ul style="list-style-type: none">Known exposure to individual who tested positive for COVID-19Known travel outside of Arkansas in the last 14 daysSpecial Populations	Yes ADH Test	COVID-19 Unit Placement (Please contact ADON on call)	Droplet/Contact Precautions with Eye Protection (Airborne precautions for aerosolizing procedures ²)
Confirmed	COVID-19 confirmed by PCR testing	NA	COVID-19 Unit Placement (Please contact ADON on call)	Airborne/Contact Precautions with Eye Protection

1. E7 is a positive pressure unit and does not receive patients with pending or positive COVID-19 testing.
2. Collecting nasopharyngeal swabs does not require airborne precautions.
3. Immunocompromised individuals (e.g. cancer, solid organ transplant, other immunosuppressive drugs, heart disease, chronic lung disease, advanced HIV), pregnant women, and people living homeless or in congregant facilities (such as dorms, fraternities, sororities, shelters, jail, prison, skilled nursing facilities, adult family homes).
4. Patients who do not have an indication for hospitalization should be cared for at home with appropriate guidance regardless of risk for COVID-19. [Provide home care sheet if appropriate.](#)

COVID-19

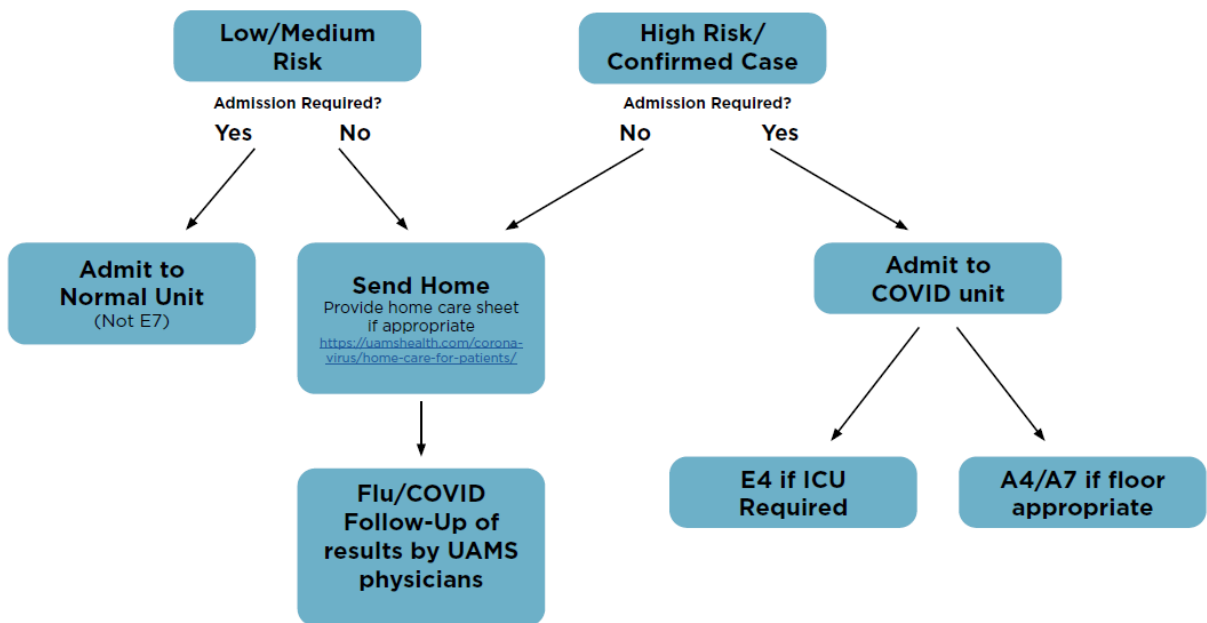
COVID-19 in Pregnancy: For Healthcare Providers

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UAMS COVID EVALUATION Guidelines for Risk Stratification/Testing/Placement/Isolation

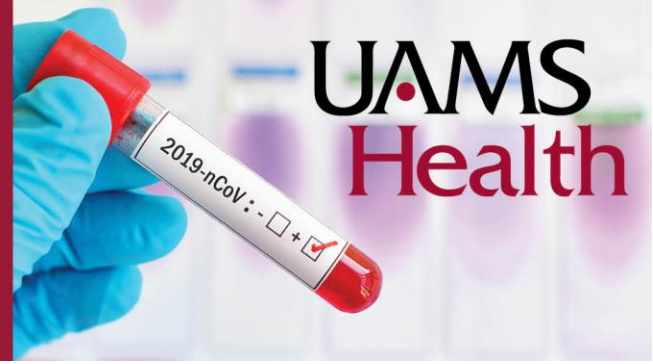
All patients undergoing testing for COVID-19 should be on droplet/contact isolation with eye protection.



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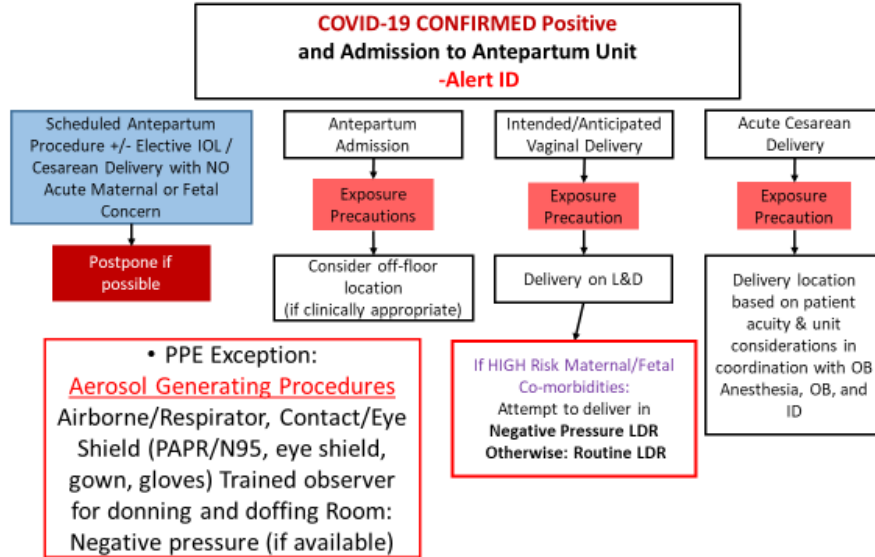
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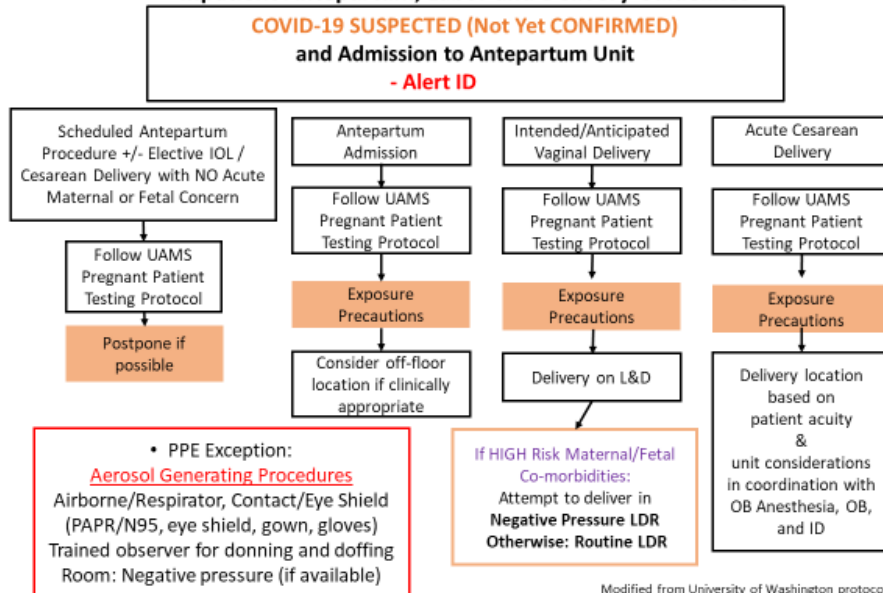
UAMS
Health

UAMS OB/GYN Inpatient Antepartum, Labor and Delivery Guidelines



Modified from University of Washington protocols

UAMS OB/GYN Inpatient Antepartum, Labor and Delivery Guidelines

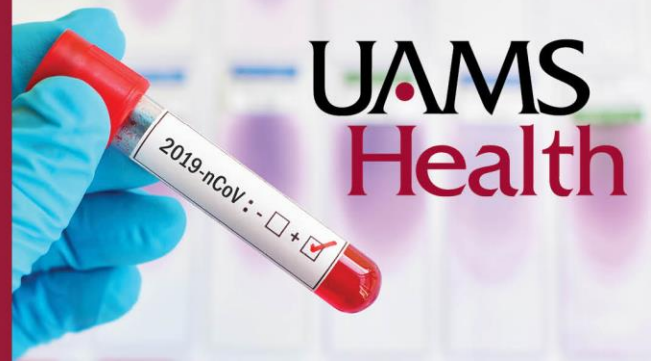


Modified from University of Washington protocols

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UAMS Visitation Policies

****New Update as of 3/19 at 14:30**

Visitors to the UAMS Medical Center and clinics are limited to exceptions such as comfort care, mothers in active labor, parents with a minor patient and transplant patients requiring family care providers. Patients with clinic appointments may be accompanied by a visitor only for exceptions such as minor patients, patients in a wheelchair and others who need assistance or patients undergoing a procedure requiring to drive them home.

Daytime Visitation Hours – 6:30 a.m. to 10:00 p.m.

Daytime Visitation 4th Floor – 8 a.m. to 6:00 p.m.

Adults Only

- Only one visitor allowed in a patient room at any time.
- Each patient is limited to 3 visits per day.
- Access to patient rooms is only from the B elevators (E, F and H wings) or C elevators (A wing only). To use these elevators, you must have:
 - A wristband with the room number of patient. Wrist band colors change every day
 - A visitation card with the patient's room number. Show this card to unit staff before entering a patient room. Cards are good for one day only.
- Wear your wristband and keep your card with you at all times.
- The visitation card must be returned to the first-floor screening desk before a different visitor is allowed to visit the patient. The screener will mark the card each time a different visitor uses the card. The card may be used for a maximum of 3 visits a day.
- Visitors seen on patient floors without a card and wristband must return to the first floor.
- Visitors must remain in patient rooms. All waiting areas above the second floor are closed to visitors.
- Visitors waiting their turn to visit may not be allowed to wait inside the hospital due to social distancing guidelines for your safety.
- Visitors are not required to wear a face mask if they are visiting patients on airborne or droplet precautions. Only the patient is required to wear a mask.

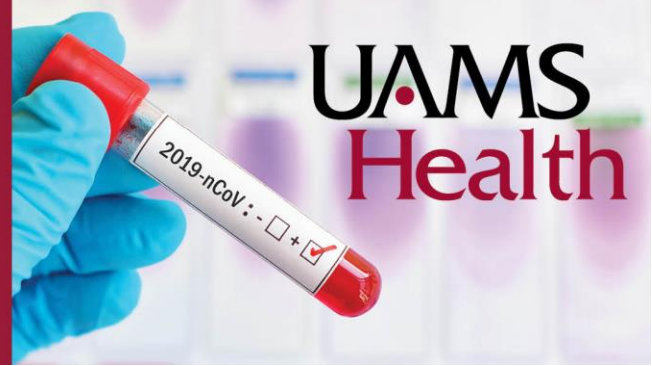
Overnight Visitation Exceptions

1. Exceptions must be approved by ADON in consultation with Admin and/or CMO on call

COVID-19

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2. Each unit must maintain an exception log with visitor name, phone number, and exception for overnight stay. This must be updated daily by the charge nurse and emailed to CSM and ADON by 8:00 pm.
3. Current exceptions for overnight visitors
 - Comfort care
 - Family member provides care who otherwise requires a sitter — confirmed by ADON and charge nurse
 - Adult staying with minor patient
 - Mother in labor
 - E7 and F7 stem cell patients
4. Overnight visitors must be rescreened **DAILY** at appropriate screening location.
5. Guidelines for visitors granted an exception:
 - Must receive Hand Hygiene education provided by nursing staff
 - Must comply with PPE expectations if patient is on any type of isolation
 - Must remain in room from 10 pm to 6 am unless asked by staff to step out.
 - Failure to comply will result in removal of visitation privileges
 - Visitors are not required to wear a face mask if they are visiting patients on airborne or droplet precautions. The patient is required to wear a mask.
 - All waiting areas in patient units are closed.

UAMS Proposed OB Templates

***Not yet implimented**

Low risk

8w - TM - n/v, bleeding, counseling, etc

12w - NOB est care and dating u/s - discuss quad

16w - lab only for quad if wanted, otherwise skip or TM

20-22w - u/s (depending on scheduling availability)

28w - in person visit, glucola and third tri labs

30w - skip

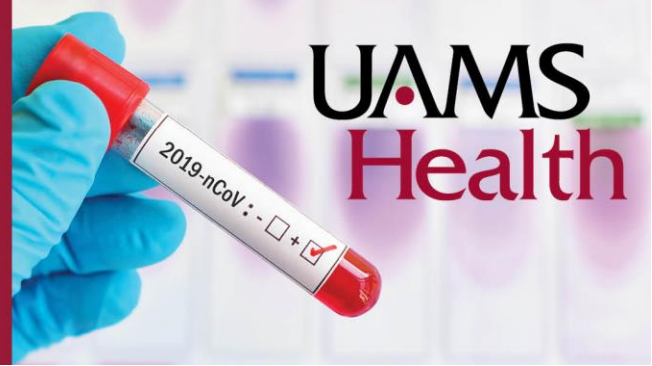
32w - TM

34w - skip

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36w - in person, GBS
37w - skip (or TM?)
38w - come in
39w - come in
40w - come in
PP - TM

Mod risk - CHTN no meds, AMA, GDM, class 1-2 obesity, di/di TIUP, etc (others to add to this list??)

8w - TM - n/v, bleeding, counseling, etc
12w - NOB est care and dating u/s - discuss quad - baseline PIH labs, early glucose screen, etc
16w - lab only for quad/NIPT if wanted and BP check
20w - u/s and BP check
24w - TM visit if possible, come in if necessary (can BP check at home)
28w - in person visit for glucoala and third tri labs
30w - TM
32w - TM
34w - TM
36w - in person for GBS
37w - TM or come in?
38w - come in
39w - come in
40w - come in
PP - TM

High risk - class III obesity, preexisting DM, IGUR, multiples (not di/di), CHTN on meds, etc
Per MFM

Additional Resources:

For up to date information regarding current COVID-19 numbers, visit
<https://coronavirus.jhu.edu/map.html>

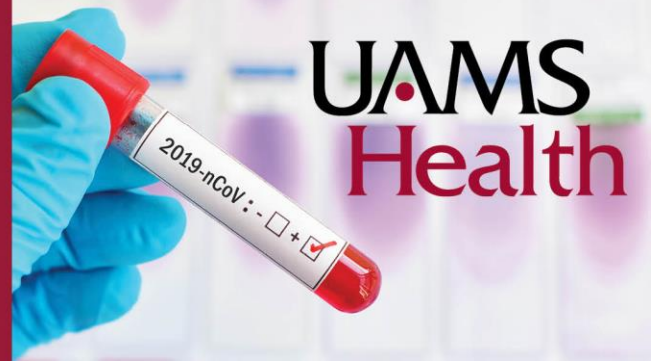
Access to SMFM COVID-19 Response Bundle: <https://www.smfm.org/critical-care/cases>

ACOG Outpatient Assessment of Pregnant Women with COVID-19
<https://www.acog.org/.../Practice-Adv.../COVID-19-Algorithm5.pdf>

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CDC and ACOG Infection Prevention and Control in Inpatient Settings
<https://www.cdc.gov/.../inpatient-obstetric-healthcare-guidan...>

CDC website regarding COVID-19
<https://www.cdc.gov/coronavirus/2019-ncov/index.html>

Flattenthecurve.com

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- <https://www.nih.gov/news-events/news-releases/nih-clinical-trial-investigational-vaccine-covid-19-begins>