

Laerdal SonoSim Ultrasound Solution (LSUS) 2.0

SimMom Early-Stage Pregnancy

Peer-to-Peer Checklist

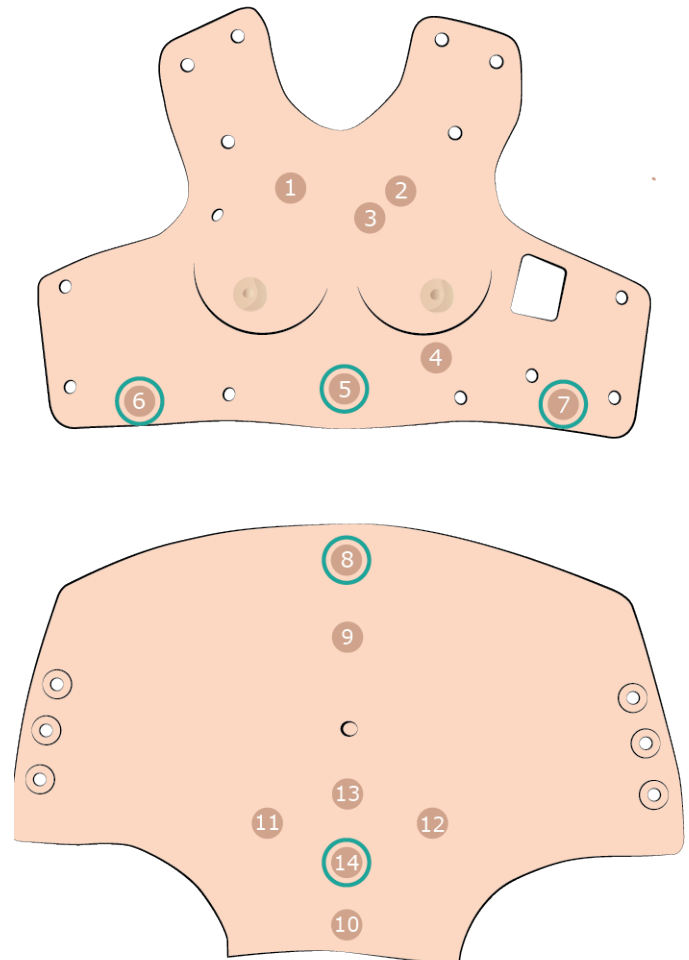
Early-stage pregnancy bundle contains 10 different actual patient cases as part of the patient assessment and diagnosis.

Target group(s): Healthcare providers that participate in the care of pregnant patients and senior medical students.

Use: Each case checklist outlines the findings for each ultrasound window available for that case. Have the participant scan each location and verbalize their findings and confirm these with the checklist. For a comprehensive, expert-narrated summary of each ultrasound window finding, select the *Findings* tab located in the right menu. The locations highlighted in blue are the sites where ultrasound images can be seen.

SimMom Early-Stage Pregnancy Bundle Active Tags:

1. Right Chest
2. Left Chest
3. Parasternal
4. Apical
5. Subcostal
6. Right Upper Quadrant
7. Left Upper Quadrant
8. Proximal IVC
9. Parauterine Right Upper Quadrant
10. Suprapubic
11. Parauterine Left Upper Quadrant
12. Infraumbilical
13. Parauterine Left Lower Quadrant
14. Lower Uterus
15. Parauterine Right Mid Quadrant
16. Parauterine Left Upper Quadrant
17. Parauterine Left Mid Quadrant
18. Upper Uterus
19. Supraumbilical



Case I

Provide the following case summary - 36-year-old female who presents with severe lower-abdominal and pelvic pain for one day.

Initial Observations: HR: 115 / RR: 20 / BP: 98/57 / Temp: 37C / SPO2-98% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	No free fluid in hepatorenal space (Morison's pouch); No hepatobiliary pathology noted; Normal right kidney	
Lower Uterus	Complex ovarian cystic mass measuring 7 cm in largest diameter; Prominent endometrial cavity/stripe; No definitive evidence of intrauterine pregnancy	
LUQ	No free fluid in splenorenal space; Normal left kidney	
Subcostal	Normal heart; No pericardial effusion	
Proximal IVC	IVC diameter greater than 2.1 cm; Respirophasic collapse less than or equal to 50%; Right atrial pressure 15 to 20 mmHg	

Clinical Diagnosis – Ovarian torsion; pregnancy of unknown location

Case 2

Provide the following case summary - 27-year-old female who presents with three days of acute right-sided abdominal and back pain, accompanied by vomiting and vaginal bleeding.

Initial Observations: HR: 90 / RR: 16 / BP: 94/58 / Temp: 38C / SPO2-97% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	Acute calculous cholecystitis (including a gallbladder neck gallstone); No free fluid in hepatorenal space (Morison's pouch); Normal liver; Normal right kidney	
Lower Uterus	Normal 7-week IUP; Normal fetal cardiac activity	
LUQ	No free fluid in splenorenal space; Normal left kidney	
Subcostal	Normal heart; No pericardial effusion	
Proximal IVC	IVC diameter less than or equal to 2.1 cm; Respirophasic collapse greater than 50%; Right atrial pressure 0 to 5 mmHg	

Clinical Diagnosis – Acute calculous cholecystitis; threatened miscarriage; viable first-trimester intrauterine pregnancy

Case 3

Provide the following case summary - 38-year-old female who presents with two days of continuous moderate-to-severe lower-abdominal pain, accompanied by one week of intermittent vomiting.

Initial Observations: HR: 90 / RR: 20 / BP: 96/46 / Temp: 37C / SPO2-95% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	No free fluid in hepatorenal space (Morison's pouch); Normal right kidney	
Lower Uterus	Complex left-adnexal cystic mass (midline view); Left-adnexal, medium-echogenicity, circular ring with hypoechoic center (adjacent to the ovary), suspicious for ectopic pregnancy; Trace free pelvic fluid; Clinically diagnosed as ectopic pregnancy	
LUQ	No free fluid in splenorenal space; Normal left kidney	
Subcostal	Normal heart; No pericardial effusion	
Proximal IVC	IVC diameter less than or equal to 2.1 cm; Respirophasic collapse less than or equal to 50%; Right atrial pressure 5 to 10 mmHg	

Clinical Diagnosis – Ectopic pregnancy; complex left-adnexal mass; dehydration

Case 4

Provide the following case summary - 34-year-old female who presents with acute pelvic pain, vaginal spotting, weakness, and lightheadedness after exercise.

Initial Observations: HR: 100 / RR: 14 / BP: 90/48 / Temp: 36.7C / SPO2-98% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	No free fluid in hepatorenal space (Morison's pouch); Normal right kidney	
Lower Uterus	Normal 12-week twin live pregnancies	
LUQ	No free fluid in splenorenal space; Normal left kidney	
Subcostal	Normal heart; No pericardial effusion	
Proximal IVC	IVC diameter less than or equal to 2.1 cm; Respirophasic collapse greater than 50%; Right atrial pressure 0 to 5 mmHg	

Clinical Diagnosis – Threatened miscarriage; viable first-trimester gestation; dehydration

Case 5

Provide the following case summary - 34-year-old female

Initial Observations: HR: 96 / RR: 18 / BP: 115/74 / Temp: 37.7C / SPO2-96% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	Multiple intrarenal stones; Right hydroureter; Moderate right hydronephrosis; No free fluid in hepatorenal space (Morison's pouch)	
Lower Uterus	Double decidual sign and gestational sac; Likely yolk sac; No definitive fetal pole; No demonstrable cardiac activity; Uterine fibroid	
LUQ	No free fluid in splenorenal space; Normal left kidney	
Subcostal	Normal cardiac activity; No pericardial effusion	
Proximal IVC	IVC diameter less than or equal to 2.1 cm; Respirophasic collapse greater than 50%; Right atrial pressure 0 to 5 mmHg	

Clinical Diagnosis – Obstructive uropathy from ureteral calculus; intrauterine pregnancy of uncertain viability.

Case 6

Provide the following case summary - 22-year-old female who presents after a syncopal episode. She describes diffuse abdominal pain, generalized weakness, light headedness, and a two-week history of intermittent vomiting.

Initial Observations: HR: 110 / RR: 22 / BP: 78/42 / Temp: 36C / SPO2-95% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	Free intraperitoneal fluid in the hepatorenal interface (Morison's pouch); Normal right kidney; Large gallstone	
Lower Uterus	No definitive intrauterine pregnancy identified; Moderate degree of free fluid in posterior cul-de-sac; No definitive ectopic pregnancy visualized; Clinical diagnosis of ectopic pregnancy; Nabothian cyst (incidental finding)	
LUQ	No free fluid in splenorenal space; Normal left kidney	
Subcostal	Tachycardia; Hyperdynamic heart; Elevated ejection fraction	
Proximal IVC	IVC diameter less than or equal to 2.1 cm; Respirophasic collapse greater than 50%; Right atrial pressure 0 to 5 mmHg	

Clinical Diagnosis – Ruptured ectopic pregnancy

Case 7

Provide the following case summary - 25-year-old female who presents shortly after a near-syncopal episode. She has been experiencing chest pain over the last week, following recent respiratory illness.

Initial Observations: HR: 96 / RR: 24 / BP: 105/55 / Temp: 37.9C / SPO2-96% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	No free fluid in hepatorenal space (Morison's pouch); Liver cyst; Normal right kidney	
Lower Uterus	Normal 19-week IUP	
LUQ	No free fluid in splenorenal space; Normal left kidney	
Subcostal	Small pericardial effusion; No evidence of cardiac tamponade	
Proximal IVC	IVC diameter less than or equal to 2.1 cm; Respirophasic collapse greater than 50%; Right atrial pressure 0 to 5 mmHg in nongravid patients; Important: data is limited with regard to how IVC size and respirophasic changes are affected by uterine compression in second- and third-trimester pregnant patients	

Clinical Diagnosis – Acute pericarditis; viable second-trimester intrauterine pregnancy

Case 8

Provide the following case summary - 32-year-old female who was struck by a car. She is anxious and frightened and is unable to provide further history.

Initial Observations: HR: 105 / RR: 20 / BP: 74/42 / Temp: 36C / SPO2-96% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	Hemoperitoneum; Free intraperitoneal fluid in the hepatorenal interface (Morison's pouch); Normal right kidney	
Lower Uterus	Normal 18-week IUP	
LUQ	Hemoperitoneum; Free fluid in splenorenal interface; Normal left kidney	
Subcostal	Tachycardia; Hyperdynamic heart; Elevated ejection fraction	
Proximal IVC	IVC diameter less than or equal to 2.1 cm; Respirophasic collapse greater than 50%; Interpretation limited secondary to second-trimester gravid uterus	

Clinical Diagnosis – Hemoperitoneum; hemorrhagic shock

Case 9

Provide the following case summary - 34-year-old female

Initial Observations: HR: 98 / RR: 24 / BP: 86/58 / Temp: 36C / SPO2-93% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	Polycystic kidney; No free fluid in hepatorenal interface (Morison's pouch)	
Lower Uterus	Normal 8-week IUP; Normal fetal cardiac activity; No free fluid	
LUQ	Polycystic kidney; No free fluid in splenorenal space	
Subcostal	Large pericardial effusion; No definitive echocardiographic evidence of cardiac tamponade	
Proximal IVC	IVC diameter greater than 2.1 cm; Respirophasic collapse less than or equal to 50%; Right atrial pressure 15 to 20 mmHg	

Clinical Diagnosis – Uremic pericarditis causing cardiac tamponade; threatened miscarriage; first-trimester intrauterine pregnancy

Case 10

Provide the following case summary - 29-year-old female who presents with fever, abdominal pain, and back pain for three days.

Initial Observations: HR: 105 / RR: 22 / BP: 85/44 / Temp: 39C / SPO2-98% on room air

Ultrasound Findings:

Ultrasound Window	Findings	Correct Interpretation Yes/No
RUQ	No free fluid in hepatorenal interface (Morison's pouch); Normal right kidney	
Lower Uterus	No intrauterine pregnancy identified; Echogenic intrauterine debris consistent with retained products of conception and/or intrauterine blood clots; Trace free fluid in posterior cul-de-sac	
LUQ	No free fluid in splenorenal space; Normal left kidney	
Subcostal	Normal heart; Epicardial fat pad	
Proximal IVC	IVC diameter less than or equal to 2.1 cm; Respirophasic collapse greater than 50%; Right atrial pressure 0 to 5 mmHg	

Clinical Diagnosis – Septic miscarriage causing severe sepsis