Normal early intrauterine pregnancy

Learn more about Normal early intrauterine pregnancy guidelines

On this page

Structure development

> These guidelines were published in 2019 and are awaiting review, due 2022. Some content may be outdated.

Structures generally develop in the following predictable sequence.

1. Gestational sac

2. Double decidual reaction

3. Yolk sac (yolk sac with intrauterine gestational sac confirms early intrauterine pregnancy)

4. Embryo

5. Embryonic heartbeat.

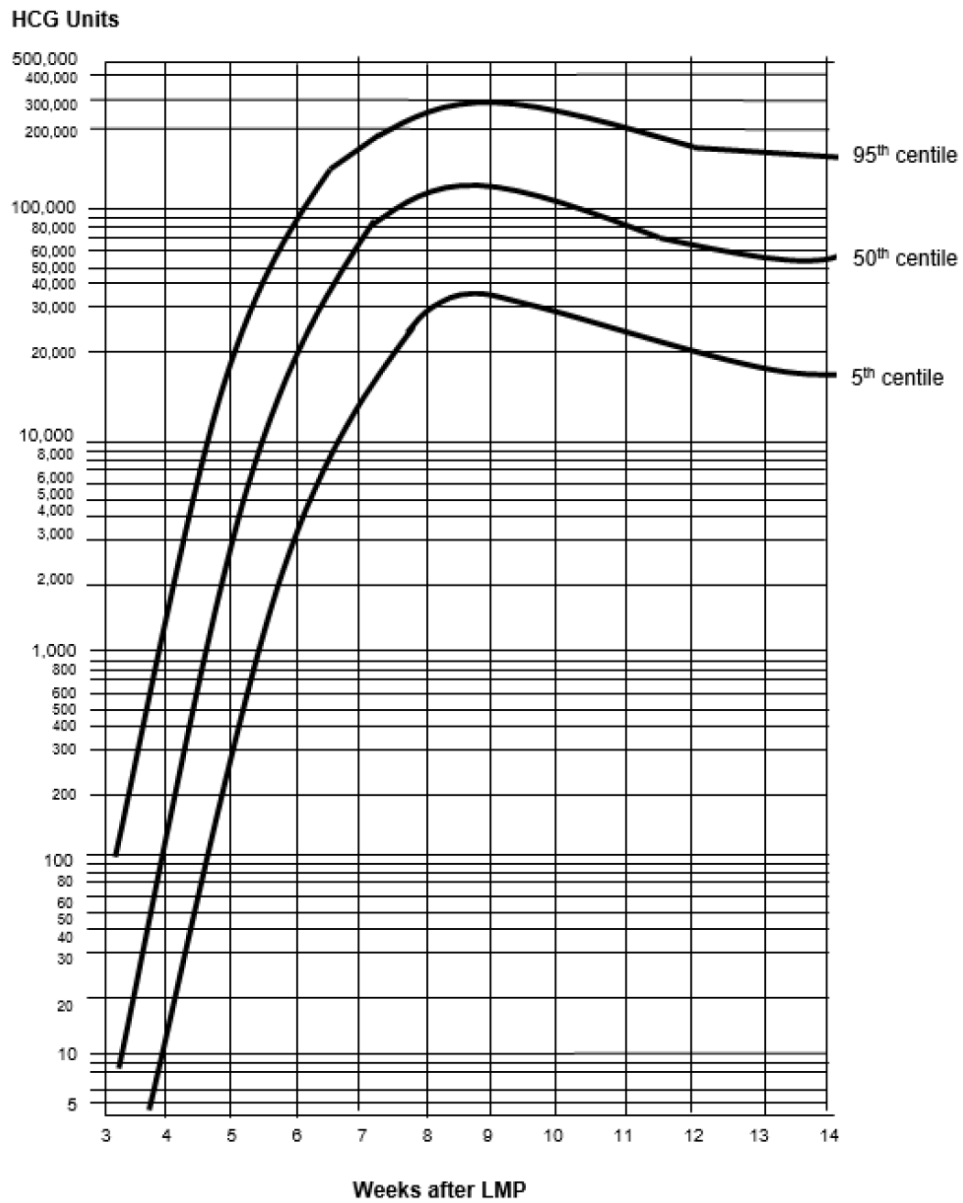The timing of structure development is also fairly predictable.

1. Gestational sac:
   - Visible at approximately 5 weeks gestation, ± 4 days.
2. Yolk sac:
   - Visible at approximately 5½ weeks gestation, ± 4 days.
3. Embryo and heartbeat:
   - Visible at approximately 6 weeks gestation, ± 4 days.

General considerations

Beta hCG

Correlate with ultrasound appearances (see below) and refer to local clinical guidelines.

Figure 1: βhCG chart

HCG Units

500,000
400,000
300,000
200,000
100,000
80,000
60,000
50,000
40,000
30,000
20,000
10,000
8,000
6,000
5,000
4,000
3,000
2,000
1,000
800
600
500
400
300
200
100
80
60
50
40
30
20
10
5

95th centile
50th centile
5th centile

Weeks after LMP

Source: Canterbury SCL, April 2019.

Yolk sac

The presence of a yolk sac within the intrauterine gestational sac confirms an intrauterine pregnancy and essentially excludes ectopic pregnancy.

Heterotopic pregnancy is very rare but should be considered if

there are suggestive ultrasound features, particularly in the setting of assisted reproductive technology.

Crown-Rump length

Growth is approximately 1.2 mm per day, but may be less in a normally developing pregnancy. Interval growth of CRL alone should not be used as a determinant of pregnancy loss.

Figure 2: Crown-rump length
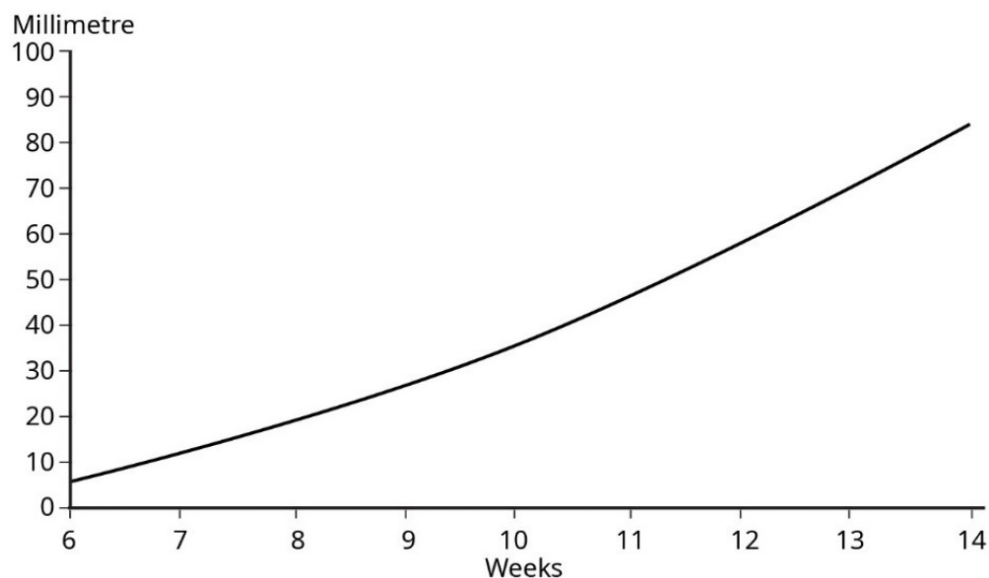
Data source: Westerway et al 2000.

Cardiac activity

Embryonic cardiac activity should always be visualised with a CRL ≥7 mm.

Slow embryonic heart rate of <80 bpm may suggest a guarded prognosis for the pregnancy.

Suggest a follow-up scan if clinically appropriate.

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