

STAGES OF PREGNANCY AND THE DETERMINING FACTORS

STAGE I

Females of this stage vary from 40 days to 3 months of pregnancy.

Differentiating Factors:

1. fluids in uterus
2. presence of membranes
3. embryonic vesicle
4. thickness of uterine walls

STAGE II

Females in this stage vary from 3 to 5 ½ months of pregnancy.

Determining Factors:*

1. displacement of uterus
2. presence of cotyledons
3. pulsation of middle uterine artery

*Any two factors are considered sufficient evidence.

STAGE III

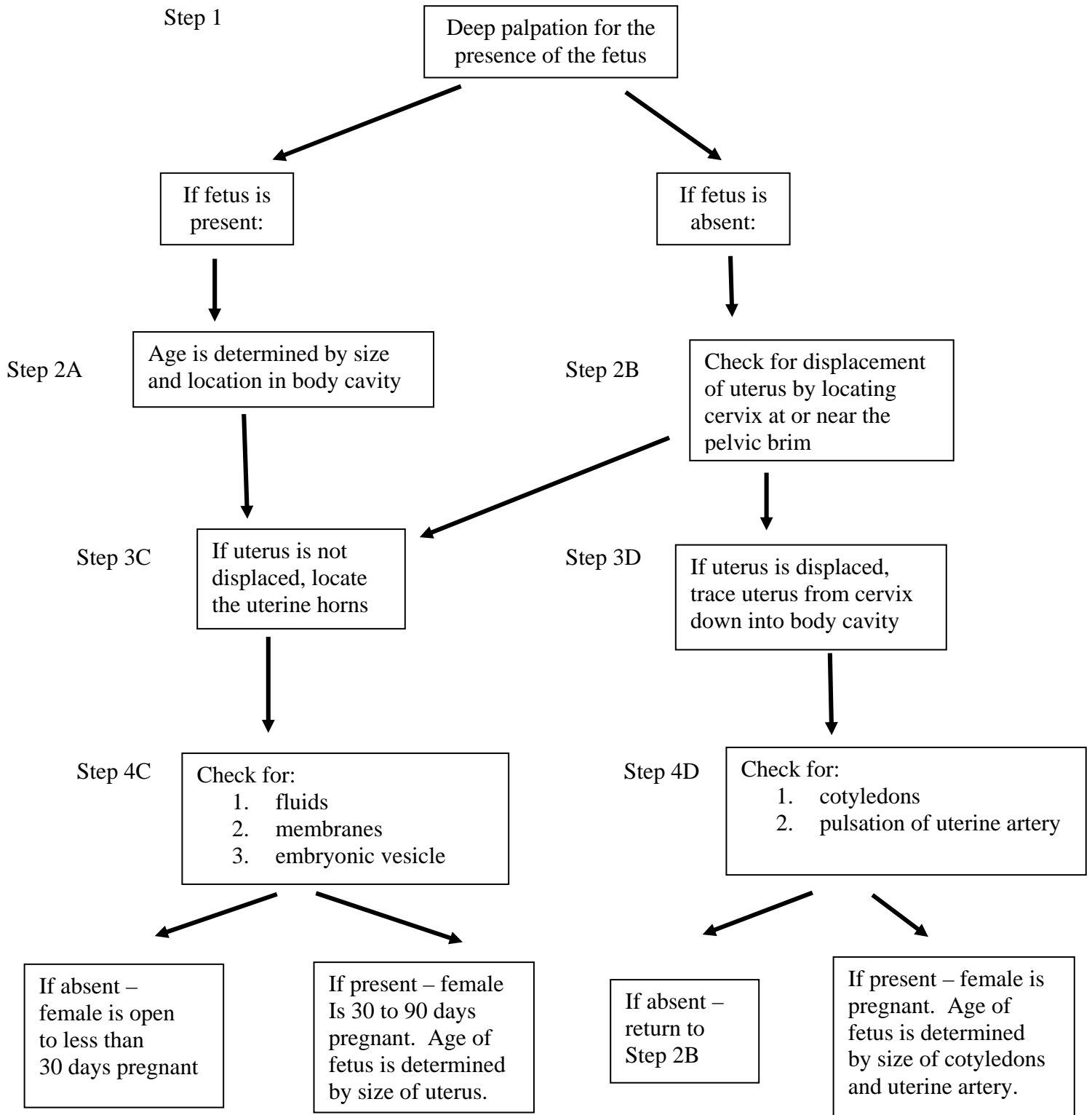
Females in this stage vary from 5 ½ months pregnant to term.

Determining Factors:*

1. displacement of tract
2. palpation of fetus

*Differentiation of the actual gestation stage is dependent upon fetal size and location in the body.

SYSTEMATIC DETERMINATION OF PREGNANCY



<u>Days of Gestation</u>	<u>Approximate lbs. Or oz.</u>	<u>Inches</u>	<u>Remarks Concerning Palpation</u>
30 (1 month)	1/100 oz.	½	Some fluid in embryonic vesicle (marble size)
45	1/8 oz.	1	Gravid horn somewhat enlarged.
60 (2 months)	¼ oz.	2	Fetus size of a mouse, uterine horn banana-size (2 inches diameter)
90 (3 months)	8 oz.	6	Fetus size of a small rat, can be bumped. Uterine horns 3 inches diameter (Big Balloon) and dropping into abdominal cavity.
120 (4 months)	2 lbs	12	Fetus size of a small cat, uterine horns 5 inches in diameter. Can feel placentomes.
150 (5 months)	5 lbs	18	Fetus size of cat. May be too deep to palpate. Horns 7 inches diameter. Placentomes 2-2 ½ inches
180 (6 months)	11 lbs	24	Fetus size of a small dog. Movement of fetus may be felt. Might feel features of calf.
210 (7 months)	23 lbs.	30	From 7 months until parturition, fetus may be felt. Age determined by fetal size.
240 (8 months)	47 lbs.	36	Mid-uterine artery large
270 (9 months)	50-100 lbs		
283 (or term)	Size depends on genetic and environmental factors, usually 60-90 lbs. And 40 inches for English breeds.		

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- b. Uterus is retracted by either the direct or indirect method; indirect method is usually most successful
- 2. Positive signs of pregnancy in cow:
 - a. Amniotic vesicle
 - b. Fetal membrane slip
 - c. Fetus
 - d. Placentomes
- 3. Palpation of amniotic vesicle
 - a. Palpate the uterine horns to detect presence of fluid and thin, resilient uterine wall
 - b. Amniotic vesicle is palpable between days 30 and 65; becomes softer and less distinct after day 65
 - c. Fluid-filled membrane; water balloon-like; similar to hen's egg with defective shell.

Size of amniotic vesicle at various stages of gestation		
Duration of pregnancy	Size (cm)	Finger Widths
35 days	0.7	½ finger
42 days	1.5	1 finger
48 days	3.5	2 fingers
53 days	5.5	3 fingers
58 days	7.5	4 fingers
62 days	9.0	Hand less thumb
65 days	10.5	Hand and thumb

- 4. Fetal membrane slip
 - a. Most useful between days 35 and 90 of gestation
 - b. Technique
 - (1) Retract uterus and identify one horn enlarged and fluid-filled; resilient and fluctuant uterine horn.
 - (2) Gently pick up and compress uterine horn immediately cranial to the cervix and feel the allantochorion and its vessels slip between the thumb and fingers before the uterine wall escapes from the fingers.
 - (3) Membranes can be slipped in the pregnant horn by day 35 and in the non-pregnant horn after day 60.
 - c. Useful to differentiate pregnancy from pyometra and mucometra in which the uterus contains fluid but not an embryo and placenta.
 - d. Some suggestion that pregnancy diagnosis by fetal membrane slip may be followed by higher incidence of pregnancy loss than are other methods of pregnancy diagnosis;
- 5. Palpation of placentomes
 - a. Possible to identify placentomes by day 75 but most readily identified by day 85 to 90.
 - b. Must be certain to identify placentomes; always palpate 3 placentomes, 2 ovaries in each cow with which they may be confused; also lymph nodes and uterine tumors.
 - c. Palpate placentomes by rolling the uterine wall between the fingers or by passing the flattened hand over the uterine surface.
 - d. Size of placentomes near the cervix can be used to estimate gestational age.

Size of placentomes at various stages of pregnancy		
State of pregnancy	Size of placentomes	Relative Size
90 days	1 – 1.5 cm	Dime
120 days	1.5 – 2.5 cm	Quarter
150 days	2.5 – 4.0 cm	Half dollar
180 days	4.0 – 5.0 cm	Silver dollar

6. Palpation of fetus

- a. Fetus is identifiable by 65 – 70 days of gestation after amniotic vesicle softens; palpable thereafter until term.
- b. Position of fetus:
 - (1) 70 days – descent of the pregnant uterus begins
 - (2) 150 days – descent complete; uterus on abdominal floor, may be out of reach
 - (3) 210 days – ascent begins; may be out of reach
 - (4) 240 days – ascent complete; fetus readily palpable near pelvis
- c. False Positives
 - (1) Mistake other abdominal organ for fetal part; i.e. kidney, rumen, large cervix (Ste. Gertrudis), abdominal fat necrosis, etc.
- d. False negatives
 - (1) Failure to identify non-pregnant tract during the time a fetus is out of reach during mid-gestation
- e. Fetal head size; estimation of gestational age

Fetal head size (crown-to-nose) at various stages of gestation	
Fetal Age	Crown-to-nose size
70 days	1 finger
80 days	2 fingers
90 days	3 fingers
100 days	4 fingers
110 days	Hand less thumb
120 days	Hand plus thumb

7. Contributory, but not positive signs of pregnancy

- a. Cervix-fixed or movable
 - (1) Cervix is easily movable during early pregnancy, but weight of advancing pregnancy makes it impossible to retract uterus
- b. Middle uterine artery
 - (1) Artery supplies most blood to the pregnant uterus and developing fetus; arises from the internal iliac near its origin at the aorta; courses through the broad ligament to enter the uterine horn near its center, very mobile and can be encircled with the thumb and finger.