

THIRD STAGE OF PARTURITION

1. The third and last stage of parturition is the stage of expulsion of foetal membranes and the involution of the uterus.
2. Expulsion of foetal membranes is normally completed within a few hours after the expulsion of the foetus.
3. Whereas involution of the uterus to its normal non-pregnant state may take more than a month in some species.

EXPULSION OF FOETAL MEMBRANES:

Separation of foetal membranes:

1. With the birth of the foetus, the vessels in the foetal placenta collapse and the villi become small and shrunken.
2. After the expulsion of the foetus the uterus still contracts strongly for 48 hours and less vigorously, but more frequently, thereafter.
3. This is necessary to prevent haemorrhage and to aid in the expulsion of the foetal membranes.
4. These peristaltic and contraction waves besides reducing the size of the uterus and aiding in forcing the placenta and membranes into the birth canal probably markedly reduce the amount of blood circulating in the endometrium.
5. This causes a dilation or relaxation of the maternal crypts.
6. The shrinking of the villi and the dilation of the maternal caruncular crypts probably play a major role in the separation of the foetal trophoblast and cryptal epithelium of the maternal placenta.
7. No maternal tissue is shed in the afterbirth of cattle.
8. However a few foetal villi may be caught and left in the maternal crypts.
9. The middle uterine artery immediately contracts following parturition. The artery becomes thick walled and the characteristic thrill or whirring is absent although it may be several weeks or more before it involutes to near its normal size. In exceptional cases an aneurism of this artery may occur and a thrill or whirr may be palpated over a portion of the artery for several weeks or longer following parturition.
10. The uterine contractions during this third stage produce movement of the uterine wall and caruncles that may aid in freeing or separating the foetal placenta. There is no muscular tissue in the caruncles. The weight of the amnion and the portion of the allantois in the birth canal tends to help remove the afterbirth from the uterus.
11. Incidence of retained afterbirth has much higher in buffalo in which the young were not allowed to suckle. It is well known that suckling stimulates the release of oxytocin from the pituitary.
12. A lack of progesterone during the last month or so of pregnancy resulted in the occurrence of parturitions 10 to 20 days earlier than normal together with a high incidence of retention of the placenta.
13. Early parturition, twin pregnancy or a shortened gestation period have frequently been observed associated with retained placenta.

14. In these instances infection may play a pathologic role.
15. Normal expulsion of the foetal membranes can be said to be a complex process involving both mechanical and hormonal factors, although the exact mechanism is still not completely understood.
16. IN DOGS AND CATS: The foetal membranes are usually expelled irregularly between the foetuses, or one foetus may be expelled with its own placenta and that of a foetus expelled earlier. In rare instances expulsion of a few placentae may be delayed for 12 hours or more. The foetal membranes of the last foetuses in the bitch are usually expelled shortly after the birth of the last pup.
17. IN THE SOW: Since a number of the allantois chorion may be fused, the foetal membranes may be expelled at only 2 to 3 intervals during parturition. Most porcine afterbirths were expelled from 20 minutes to 12 hours, average 4 hours, after the birth of the last pig. Occasionally placentas were retained with no observed ill effects.
18. This third period of labor is characterized by relatively short, infrequent, and mild periods of straining usually at the time the larger mass of membranes are expelled or when much of the placenta is hanging from the vulva especially in uniparous animals.
19. IN MOST UNIPARA: The amnion and umbilical cord start through the birth canal first and as the allantois chorion separates from the endometrium at the apex of the horn due to peristaltic waves starting there, the chorion or foetal placenta is inverted and the allantoic surface is outside as the membranes are expelled from the uterus. If placental expulsion is delayed for longer period of time than normal the chorion or foetal placenta may be exposed when it falls from the vulva.
20. Occasionally when foetal expulsion is delayed the foetal placenta may separate, and later both the dead foetus and the foetal membranes are expelled or withdrawn together.
21. Unlike the mare, placental separation in the cow is slower than in most other species of animals, so that the second stage of labour can be prolonged without the danger of the foetus. The umbilical cord in the bovine foetus is ruptured as the foetus passes through the birth canal.
22. In the cow the length of time required for the expulsion of the foetal membranes is normally $\frac{1}{2}$ to 8 hours.
23. The ewe is similar to the cow.
24. The mare normally expels its foetal membranes within 0.5 to 3 hours after the birth of the foal.
25. Generally, the healthier the animal the more prompt is the expulsion of the foetal membranes.
26. Domestic animals, with the exception of the mare, will usually eat the expelled foetal membranes.
27. Instances of cow's choking and suffocating while eating their placentas have been reported. Ruminants will not eat their foetal membranes if the membranes are decomposed.
28. Multipara usually eats the foetal membranes as well as any foetal cadavers.
29. The act of eating the foetal membranes is not known to be beneficial in any way.
30. In ruminants the placenta may lie in the rumen and slowly macerate or decompose over a period of several weeks or more and is occasionally suspected of causing indigestion. This is questionable since nearly all cattle eat their foetal membranes and symptoms of indigestion or toxæmia rarely occur.

31. Occasionally the cow may begin eating her foetal membranes before they have dropped away from the uterus.

32. After the expulsion of the foetal membranes in a normal birth, the cervix secretes rather thick tenacious mucus that tends to seal the cervix and thus prevents infection gaining entrance to the uterus.