

ROTATION OF FOETUS

1. Turning of foetus on its longitudinal axis.
2. Required to do when foetus is not in dorso-sacral position particularly in unipara.
3. In Unipara delivery of a fully mature foetus is not possible in position other than dorso-sacral.
4. Only very small and immature foetuses of unipara can be born out in positions other than dorso-sacral.
5. In multipara also this position is normal presenting position but normal delivery can occur in other positions also.
6. In other words foetuses in multipara can be born out in dorso-ilial or dorso-pubic positions also.
7. This is because of small size of foetus in them in relation to pelvis.

- Normal position of foetus during gestation in different species:
 - Cow, Buffalo, Sheep and Goat: Dorso-sacral
 - Mare: Dorso-pubic
 - Bitch: Dorso-ilial
- Foetus in cow in dorso-ilial or dorso-pubic positions during parturition indicate torsion of uterus.
- 90 degree torsion means dorso-ilial position
- 180 degree torsion means dorso-pubic position
- 90 degree torsion may remain unnoticed since twist in birth canal may not be evident.
- 180 degree torsion usually do not remain unnoticed.

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1. Relationship of Broad ligament and uterine arteries with uterus will indicate torsion of uterus existed or not.

2. In mare and bitches, foetuses presented in dorso-pubic and dorso-ilial positions, respectively, during gestation must be rotated in dorso-sacral position during first stage of parturition.

3. If they do not rotate to dorso-sacral position, dystocia may occur.

4. In multipara, foetuses in dorso-pubic position in anterior presentation may result in dystocia due to nose of the foetus caught at pelvic brim or in posterior presentation due to buttocks caught at pelvic brim.

- Correction:
- Repulsion of foetus in uterus may be necessary.
- But in protracted case of dystocia in which foetus and birth canal is dried, foetal fluid has lost and uterus is tightly contracted around the foetus, repulsion of foetus might not be possible, in such cases adequate lubrication of foetus and birth canal followed by gentle rotation of foetus may have a curative relief.
- Foetus in dorso-ilial position:
 1. After adequate lubrication of foetus and birth canal,
 2. Obstetrical chains are applied to fetlock joints of foetus,
 3. Operator puts his hand and arm beneath the body of foetus in uterus,
 4. Assistants apply traction in caudal and caudal down ward direction while operator lifts the foetus and push it into right or left side to accomplish correction of dorso-ilial to dorso-sacral position.
- Foetus in dorso-pubic position:
 1. Repulsion of foetus into uterus,
 2. After adequate lubrication of foetus and birth canal,
 3. Obstetrical chains are applied to fetlock joints of foetus,
 4. Operator puts his hand and arm below the withers or buttocks of the foetus to raise the fetus
 5. Two assistants apply cross traction- one pulling one limb upward then horizontally from left to right and then downward, simultaneously another assistant pull another limb first down ward then horizontally from right to left and then upward to rotate the foetus in dorsosacral position.

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In some prolonged cases of dystocia in anterior presentation, head and neck may create some obstacle to rotation and have to be amputated before rotation can be accomplished.

In a few cases, rotation may require the use of the detorsion rod or cammerer's torsion fork as for example in uterine torsion.

- In these cases the rod is fastened to the two limbs after lubrication of the foetus and the birth canal and by engaging prongs to the rod with foetal limbs through stout cuffs and by repulsion and rotation the position is corrected.
- In sheep and swine the hand and in dogs and cats fingers applied to alongside the chest or buttocks of the foetus after lubrication will usually repel and then rotate the foetus in dorso-sacral position.
- In these small animals forceps may also be used with care to rotate the foetus.

VERSION OF FOETUS

1. Version of the foetus is the rotation of the foetus on its transverse axis into an anterior or posterior presentation.
2. This is done most often in mare in transverse ventral presentation and in rare cases in the cow, ewe and bitch in transverse presentation.
3. Version is usually limited to 90 degree
4. Version through a 180 degree arc such as from posterior to anterior longitudinal presentation is rarely possible and should not be attempted.
5. By repulsion on the cranial or caudal end of the foetus and traction on the other end the transverse presentation is changed to a longitudinal presentation.

- If possible the foetus should be turned into a posterior longitudinal presentation, as that prevents the head and neck from complicating the correction of the abnormal presentation or posture.
- In the mare partial embryotomy is often indicated before version is attempted in transverse ventral presentation.
- Often version is only through a relatively small arc if the foetus is lying obliquely rather than in a true transverse presentation.