

Dystocia due to abnormal postures, positions and presentations

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Examination of abnormal postures, positions, presentations and their ceasing

1. Preparation of the dam
2. Restraining
3. Analgesia, anaesthesia, sedation
4. Uterine relaxation
5. Lubricants

Posture

Relation of the head and neck to the trunk of the fetus.

- **flexed** (normal: during pregnancy)
- **extended** (normal: ONLY during delivery)

Posture /abnormal/

- I. Head:**
- Lateral deviation of the head
 - Downward displacement of the head
(Vertex posture, Breast-head posture, or nape presentation)
 - Upward displacement of the head

Posture /abnormal/

- II. Forelimbs:**
- Carpal-flexion posture
 - Incomplete extension of the elbow
 - Shoulder-flexion posture = Complete retention of the forelimb
 - Foot-nape posture

- III. Hindlimbs:**
- Hock-flexion posture
 - Hip-flexion posture

one sided, double sided abnormal postures

Lateral deviation of the head

I. Abnormal head postures

- Cause:**
- dilatation failure of the cervix
 - abnormal traction



- Occurrence:**
- calves: left sided deviation more often
 - foals: head can be deviated until the pelvic area
 - foals: sometimes together with ankylosis
 - sheep and goats: also occurs

- Diagnosis:**
- one frontleg ends more caudal
 - trachea turns to one side
 - nape can be palpated
 - head of calves can be reached, but not of foals

Lateral deviation of the head

I. Abnormal head postures

Prognosis: - calves: good
- foals: doubtful/ bad
- small ruminants: good, if cervix can be passed through the investigator's hand

Treatment:

Non bloody method: - hand (muzzle, orbitae)
- mandibula snare loop
- Gagny-loop
- eye hooks
- Kühn's-crutch (foals)
- Krey-Schöttler double hook (foals)

Lateral deviation of the head

I. Abnormal head postures

Treatment:

Non bloody method: - hand (muzzle, orbitae)

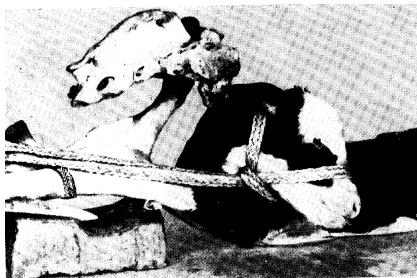


Lateral deviation of the head

I. Abnormal head postures

Treatment:

Non bloody method: - Gagny-loop

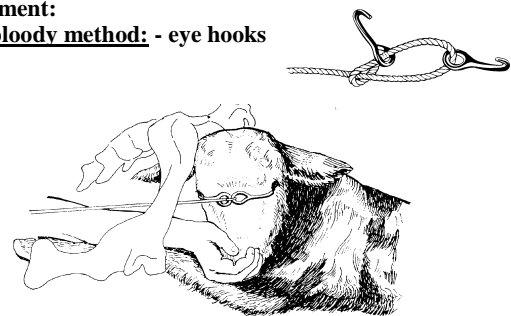


Lateral deviation of the head

I. Abnormal head postures

Treatment:

Non bloody method: - eye hooks

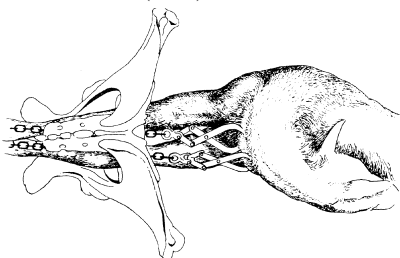


Lateral deviation of the head

I. Abnormal head postures

Treatment:

Non bloody method: - Krey-Schöttler double hook (foals)



Lateral deviation of the head

I. Abnormal head postures

Treatment:

Bloody method: - partial fetotomy (only in dead fetuses!)
(amputation of the head)
(removal of the contralateral front leg)
- caesarean section

Downward deviation of the head

I. Abnormal head postures

Types: Vertex posture
Breast-head posture



Cause: - dilatation failure of the cervix
- abnormal traction

Occurrence: - in foals, lambs more frequent

Diagnosis: - Vertex posture: the head can not enter into the pelvic cavity, the two legs are inside
- Breast-head posture: can be misdiagnosed as the lateral deviation of the head

Downward deviation of the head

I. Abnormal head postures

Prognosis: - Vertex posture: good
- Breast-head posture: depends on: how complete abnormal pains can be switched off, and if after putting the dam into dorsal recumbency, how close the head will be to the pelvic inlet

Treatment:

Non bloody method: - hand (repelling the fetus, muzzle turned laterally; orbitae; one foreleg can be flexed into carpal or complete shoulder flexion)

Downward deviation of the head

I. Abnormal head postures

Treatment:

Non bloody method: - in Breast-head posture: dam should be layed down into dorsal position, hind part should be elevated
- Kühn's-crutch (foals)
- eye hooks

Bloody method: - partial fetotomy (amputation of the head, flexion of one forelegs can be beneficial)
- caesarean section

Upward deviation of the head

I. Abnormal head postures

Cause: - dilatation failure of the cervix
- abnormal traction

Occurrence: - seldom, mostly in foals

Diagnosis: - trachea turns dorsally between the two legs

Prognosis: - bad

Upward deviation of the head

I. Abnormal head postures

Treatment:

Non bloody method: - hand (reposition only in small fetuses if the head can be easily reached)
- inducing lateral deviation of the head

Bloody method: - partial fetotomy (amputation of the head)
- caesarean section

Carpal-flexion posture

II. Abnormal postures of the forelimbs

Occurrence: - foals: more often, calves less frequent

Diagnosis: - one or both carpal joints are flexed
- advanced, invaded, jammed in or wedged in position

Carpal-flexion posture

II. Abnormal postures of the forelimbs

Prognosis: - depends how far the fetus entered into the pelvic cavity

Treatment:

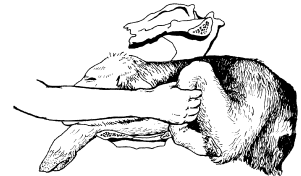
Non bloody method: - hand (metacarpus should be pushed dorsally and cranially, hoofs should be lifted into the pelvic brim by protecting them with cupped hand)
- hand and obstetrical chains/ snares
- hand and Kühn's crutch

Carpal-flexion posture

II. Abnormal postures of the forelimbs

Treatment:

Non bloody method: - hand (metacarpus should be pushed dorsally and cranially, hoofs should be lifted into the pelvic brim by protecting them with cupped hand)



Carpal-flexion posture

II. Abnormal postures of the forelimbs

Treatment:

Bloody method: - partial fetotomy
(at least one bone row should remain)

Incomplete extension of the elbow

II. Abnormal postures of the forelimbs

Cause: abnormal traction, the two joints (elbow and shoulder) remain flexed, large fetus, weak uterine activity

Occurrence: - calves

Diagnosis: - head is beyond the hoofs

Incomplete extension of the elbow

II. Abnormal postures of the forelimbs

Prognosis: - relatively good, if not wedged in

Treatment:

Non bloody method: - head is repelled, two legs should be pulled
- hand
- hand and obstetrical chains/ snares
- hand and Kühn's crutch

Bloody method: - partial fetotomy

Shoulder-flexion posture

II. Abnormal postures of the forelimbs

Cause: shoulder joint remains flexed

Occurrence: - relatively seldom
- often in piglets and puppies

Diagnosis: - no legs in the birth canal

Shoulder-flexion posture

II. Abnormal postures of the forelimbs

Prognosis: - good if fetus is small and maternal pelvic cavity is large

Treatment:

Non bloody method: - in two phases (creating carpal flexion first)

- hand
- hand and obstetrical chains/ snares
- hand and Kühn's crutch
- in small fetuses also traction without reposition (piglets, puppies)

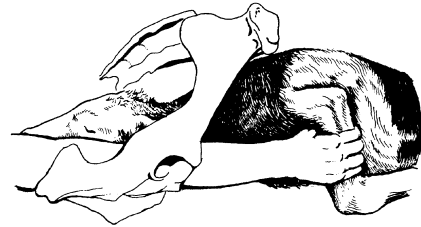
Bloody method: - partial fetotomy (head and one leg together)

Shoulder-flexion posture

II. Abnormal postures of the forelimbs

Treatment:

Non bloody method: - hand



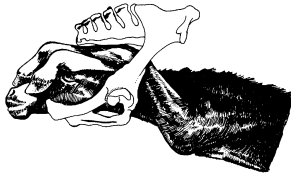
Foot-nape posture

II. Abnormal postures of the forelimbs

Cause: long extremities

Occurrence: - foals, small ruminants, calves

Diagnosis: - legs above the head /neck



Foot-nape posture

II. Abnormal postures of the forelimbs

Prognosis: - doubtful, bad

Treatment:

Non bloody method: - legs placed behind the head

Bloody method: - partial fetotomy, amputation of the head, removal of the leg in the carpal joint

III. Abnormal postures of the hindlimbs

Characteristics:

- more difficult reposition
- needs more space
- needs more external power
- should be corrected fast to avoid asphyxia

Types: - hock flexion posture
- hip flexion posture

One or two sided

Hock flexion posture

III. Abnormal postures of the hindlimbs

The hock of the hind leg is flexed

Types:

- advanced, (*tuber calcanei*)
- invaded,
- jammed in, or wedged in, (stucked fetus).

Occurrence: - no difference between species

Diagnosis:

- easy to recognize
- should be differentiated from the hip flexion, if tuber calcaneus lays under the pecten ossis pubis

Hock flexion posture

Prognosis: -good, in advanced type of the hock flexion in calves, if fetus is small, legs are short, amniotic fluid is present
 -doubtful/ bad, if hock is stuck in the pelvic cavity (foals)

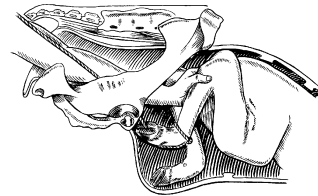
What mustn't we do? It is not allowed to extract without reposition!

Hock flexion posture

Treatment:

Non-bloody method: First the fetus should be pushed back

- by hand only (protection with the hand, lifting vertically or a bit oblique)
- Jöhnk's snare loop (only in calves!)



Hock flexion posture

Treatment:

Non-bloody method:

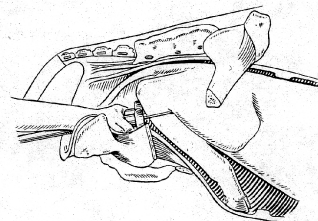
- Kühn's crutch (in foals)
- if the hock lays under the pecten: dam should be placed on dorsal recumbency, and also the hind part should be elevated
- in small foals hip flexion should be initiated
- Sus, Can: easy manual or instrumental reposition is possible
- or episiotomy should be performed (Can)

Hock flexion posture

Treatment:

Bloody method: - partial fetotomy

more advantageous than reposition in foals! (Only in dead fetuses!)



Hip flexion posture

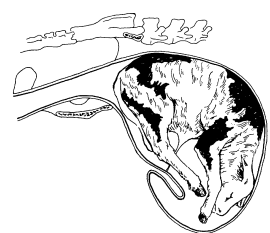
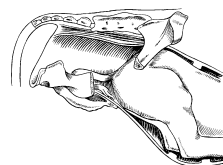
The hip is flexed, laying under the abdomen.

Occurrence: - mostly in calves but also occurs in other species

Hip flexion posture

Diagnosis:

- easy to recognize if two sided
- foals: sacral, lumbal area before the pelvic inlet
- calves: pelvic area on the pecten



Hip flexion posture

Treatment:

Non-bloody method:

- extraction without reposition (Saake-lumbal snare loop, only if: fetus is small (twins), early abortion, warmblood foals)
- in large fetuses reposition can be risky
- if reposition takes place, it should be done in two steps:
 1. step: inducing hock flexion
 2. step: solving hock flexion

Hip flexion posture

Treatment:

Non-bloody method:

- possibilities of reposition, step 1: (extraction, retarding the hind part of the fetus)
 - manually (distal part of the tibia)
 - obstetrical chain or snares
 - simple snare loop
 - Kühn's crutch

Hip flexion posture

Treatment:

Bloody method:

- Obermeyer's anal hook,
- Krey-Schöttler double hook,
- partial fetotomy (oblique cutting line, contralateral pelvic part involved) (Removal of just the hind leg does not help!)

IV. Abnormal positions

Some types are easy, some could be very complicated

Position

Relation of the vertebral column of the fetus to that of the dam.

normal: Dorsal (Upright) position

abnormal: Ventral position (but: 1 exception!)
Lateral position (left, right)

Lateral position

Occurrence: - mostly in calves but also occurs in foals
- preferably if fetus is dead
- in inertia cases

Cause: rotation of the fetus (foal) failed

Diagnosis: - easy recognition (vertebral column on the side, palmar or plantar surfaces above each other)

Lateral position

Treatment:

Non-bloody method:

- target: to induce dorsal (upright position)
- by rotating the extremities
- with chain, snare
(ventrally laying leg should be lifted, dorsally laying leg should be pushed down)
- Caemmerer's torsion fork

Ventral position

Occurrence:

- mostly in foals
- seldom in calves (combined with uterine torsion)
- preferably if fetus is dead
- in inertia cases

Cause:

- rotation of the fetus (foal) failed
- Diagnosis:** - easy recognition (vertebral column ventral, palmar or plantar surfaces look to the opposite direction as usual)

Ventral position

Prognosis: bad, also dam can be seriously injured

Treatment:

Non-bloody method:

- target: to induce dorsal (upright position)
- by rotating the extremities
- Caemmerer's torsion fork
- Kühn's crutch

Bloody method:

- fetotomy
- cesarean section

V. Abnormal presentations

The most severe abnormalities

Presentation

Relation of the long axis of the fetus to the long axis of the dam.

normal: Longitudinal presentations (anterior, posterior)

abnormal: Dorso-transverse presentation

Ventro-transverse presentation

Oblique dorso-vertical presentation

Oblique ventro-vertical presentation ('Harms dog-sitting position')

(Oblique) dorso-vertical presentation

Occurrence : - calves: more often, foals: seldom

- preferably if fetus is dead
- in inertia cases

Diagnosis: - dorsal part is available only

Prognosis: in general: bad
good only, if the case is fresh and the fetus is small

(Oblique) dorso-vertical presentation

Treatment:

Non-bloody method:

- target: to induce longitudinal presentation
- which part of the fetus is closer to us
- easier if we can induce posterior presentation manually (lifting the anus, the tail)
Krey-Schöttler double hook,
Kühn's crutch

- Bloody method: - fetotomy (cut the body in 2 pieces)
- caesarean section

(Oblique) ventro-vertical presentation
("Harms dog-sitting position")

- Occurrence :** - calves: seldom, foals: more often
- preferably if fetus is dead
- in inertia cases

- Diagnosis:** - abdominal site, legs are facing the birth canal
- excluding twins

Prognosis: bad

(Oblique) ventro-vertical presentation
("Harms dog-sitting position")

Treatment:

Non-bloody method:

- **target:** to induce longitudinal presentation
- which part of the fetus is closer
- easier if we can induce posterior presentation manually (lifting the hind legs, pushing the cranial part back)
Kühn's crutch



(Oblique) ventro-vertical presentation
("Harms dog-sitting position")

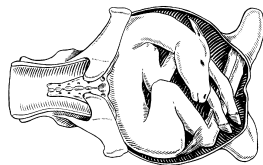
Treatment:

- Bloody method: - fetotomy (cut the body in 2 pieces)
- caesarean section

Dorso-transverse presentation

Occurrence :

- seldom (foals)
- indicates two horn pregnancy
- preferably if fetus is dead
- in inertia cases



Diagnosis: the vertebral column is laying horizontally

Prognosis: bad

Dorso-transverse presentation

Treatment:

Non-bloody method:

- target: to induce longitudinal presentation
- which part of the fetus is closer
- easier if we can induce posterior presentation manually (anus, tail pulling, while pushing the cranial part back)
Krey-Schöttler double hook,
Kühn's crutch

- Bloody method: - fetotomy (cut the body in two pieces)
- almost absolute indication for caesarean section

Ventro-transverse presentation

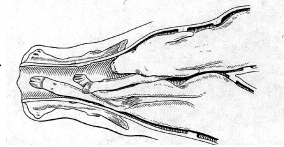
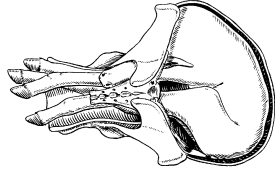
Occurrence :

- mostly in foals

Diagnosis:

- legs, abdominal part are facing to the birth canal
- exclude twins!

Prognosis: bad



Ventro-transverse presentation

Treatment:

Non-bloody method:

- target: to induce longitudinal presentation
- which part of the fetus is closer
- easier if we can induce posterior presentation manually (pull hind legs, push front legs and head back)
Krey-Schöttler double hook,
Kühn's crutch

Bloody method: - fetotomy (cut the body in two pieces)

- caesarean section