



كلية : كلية الطب العام

القسم او الفرع : النسائية والتوليد

المرحلة: الرابعة

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اسم المادة باللغة العربية :التوليد

اسم المادة باللغة الإنكليزية : **Obstetrics**

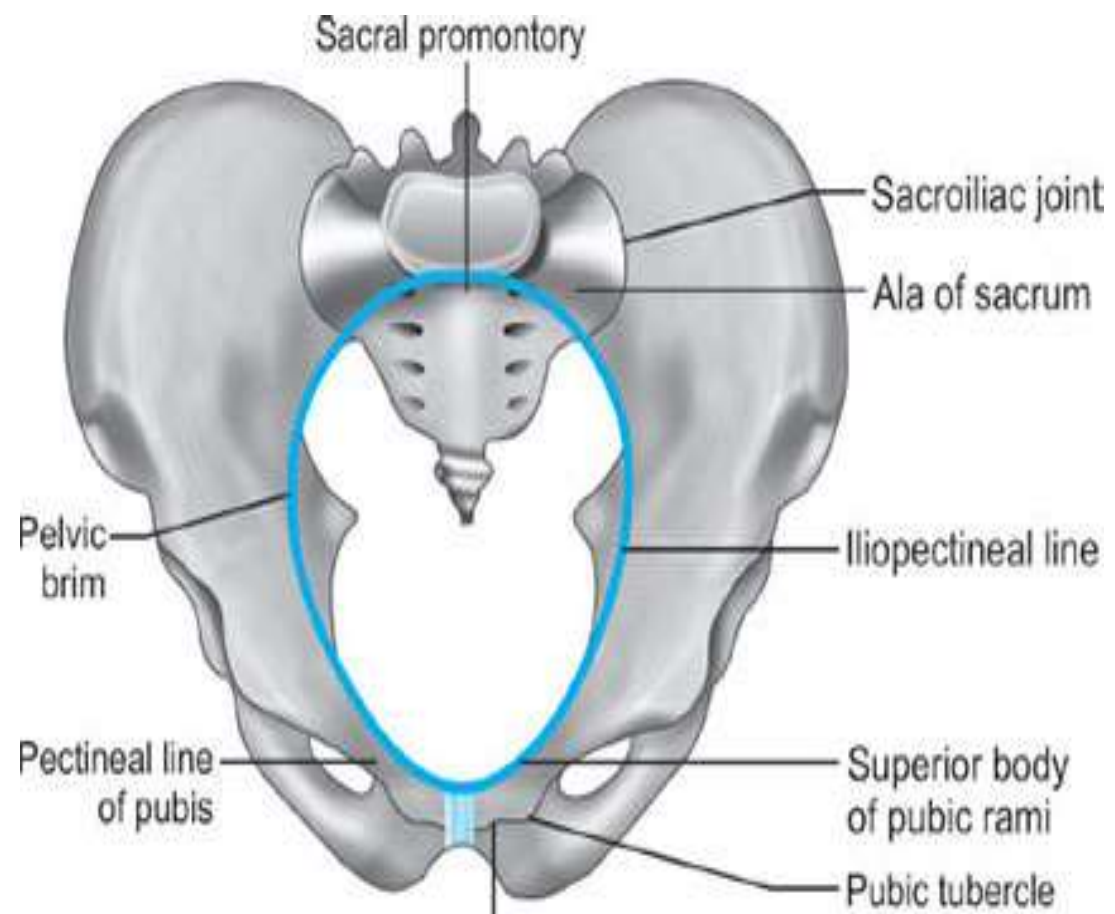
اسم المحاضرة العاشرة باللغة العربية: **Malposition**

اسم المحاضرة العاشرة باللغة الإنكليزية : الوضع غير عادي للجنين

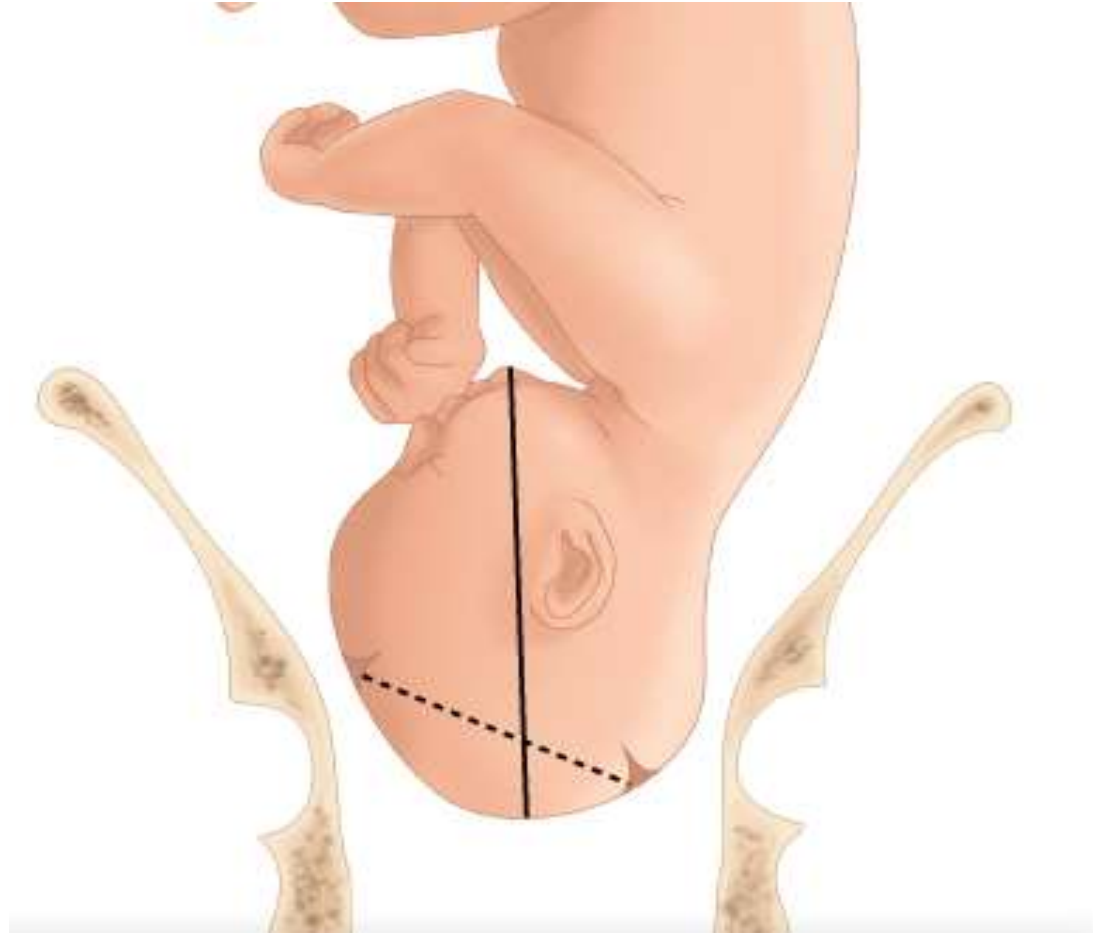
محتوى المحاضرة العاشرة

Malposition

Position is defined by the relationship of the denominator of the presenting part to fixed points of the maternal pelvis. The fixed points of the pelvis are the sacrum posteriorly, sacro-iliac joint postero-laterally, ileo-pectineal eminences antero-laterally and symphysis pubis anteriorly. The denominator is the most definable peripheral point in the presenting part, for example, occiput in vertex, mentum in face and sacrum in breech presentation.

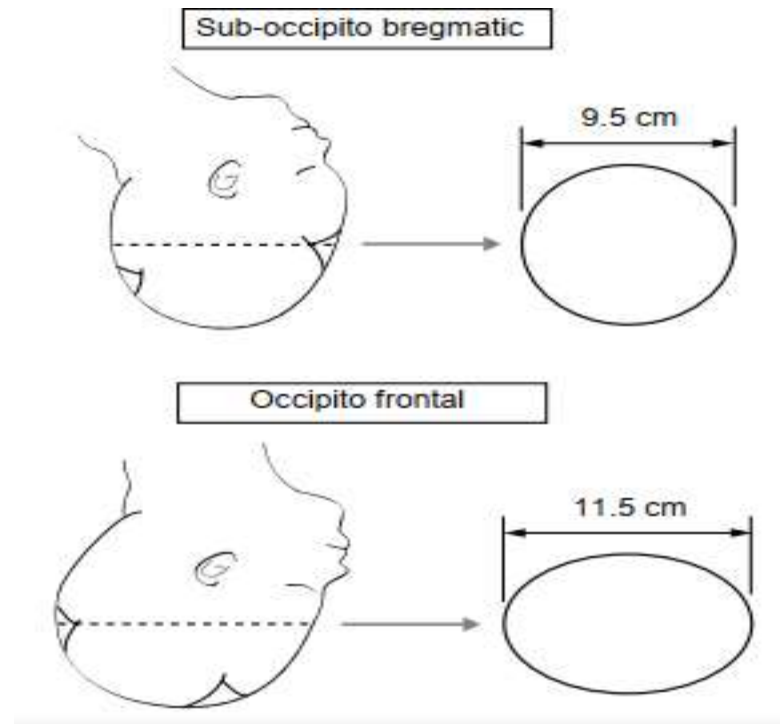


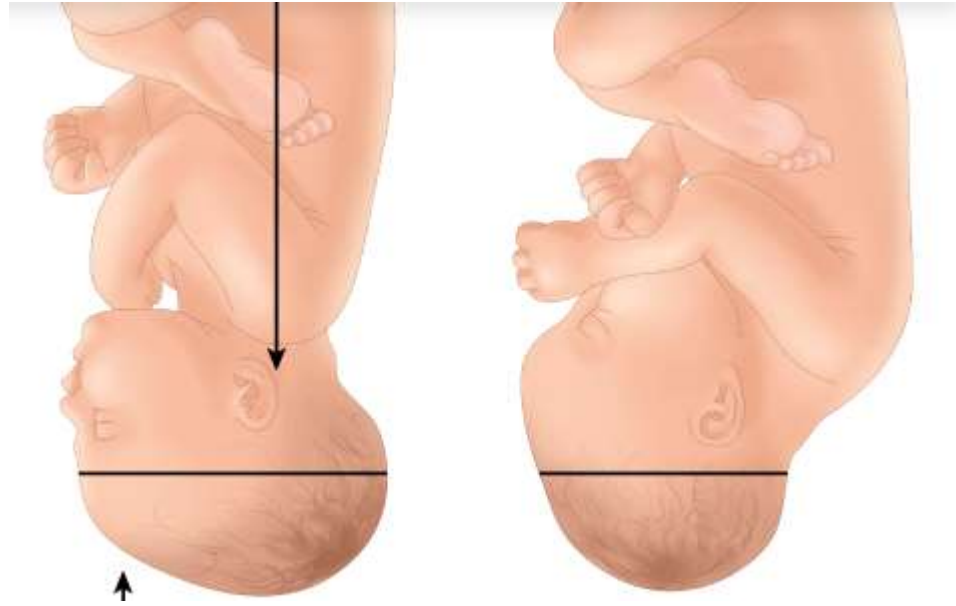
Malposition is more applicable to cases of normal presentation, that is, the vertex. The vertex presents itself in the occipito-anterior (OA) – (right, left or direct OA) position in about 90% of the cases in the late first stage of labour at term and is called normal position. In these cases the head is well flexed and presents the smallest anteroposterior (suboccipito-bregmatic) and lateral (biparietal) diameters ($9.5 \times 9.5 \text{ cm}_2$) and the parietal eminences are at the same level in the pelvis.



If the occiput lies in the posterior half of the pelvis, then it is considered a malposition. They usually present with a slightly extended head with a larger anteroposterior diameter (occipitofrontal) of 11.5 cm. Extension of the head presents a larger diameter and hence longer and difficult labours and more operative deliveries.

Anteroposterior diameters of the vertex in the well-flexed head (suboccipito-bregmatic – usually OA positions) and slightly deflexed head (occipito-frontal – usually occipito-posterior or transverse positions)





A vast majority of cases with malposition correct themselves to normal position due to flexion of the head at the atlanto-occipital joint and the occiput rotates forwards with additional uterine contractions. This is due to the thrust of the spinal column of the fetus on one side of the oval-shaped head which lies on the medially downwards sloping pelvic floor musculature of the levator ani. This natural mechanism of labour promotes spontaneous vaginal deliveries.

Occiput Posterior Position

Most occiput posterior positions undergo spontaneous anterior rotation followed by uncomplicated delivery. Although the precise reasons for failure of spontaneous rotation are not known, transverse narrowing of the midpelvis is undoubtedly a contributing factor. Importantly, two thirds of occiput posterior deliveries occurred with fetuses who were occiput anterior at the beginning of labor. Thus, most occiput posterior presentations at delivery are the result of malrotation of occiput anterior position during labor, and almost 90 percent of occiput posterior presentations at the outset of labor spontaneously rotate anteriorly.

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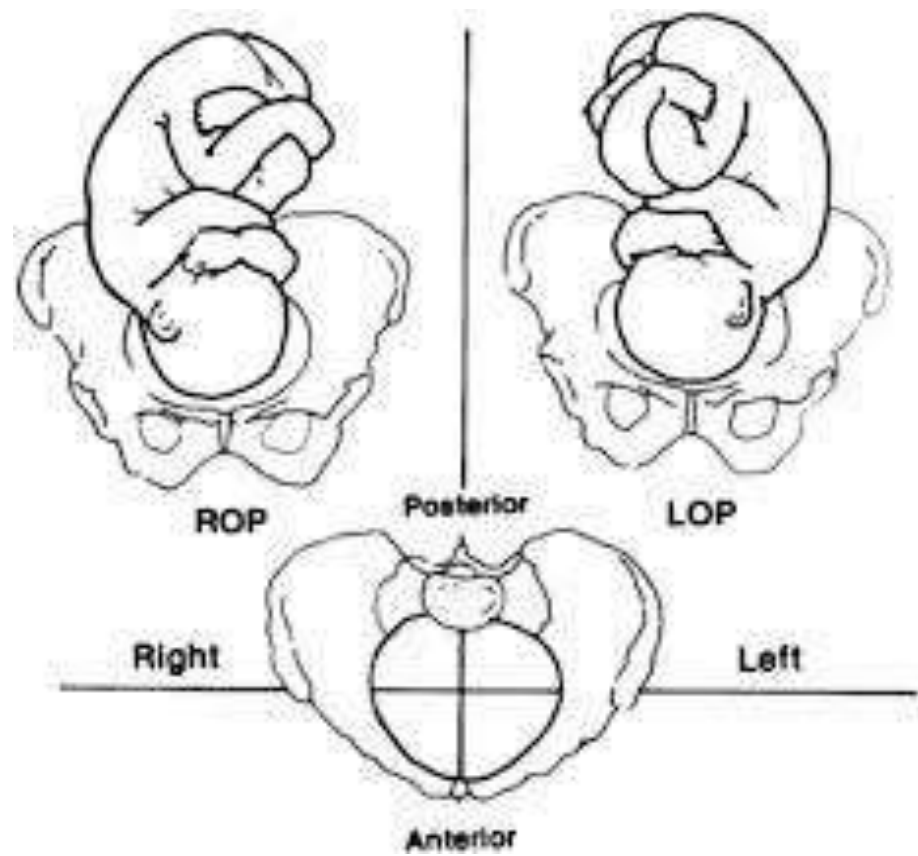
Labor and delivery need not differ remarkably from that with the occiput anterior. Progress may be determined by assessing cervical dilatation and descent of the head. In most instances, delivery usually can be accomplished without great difficulty once the head reaches the perineum.

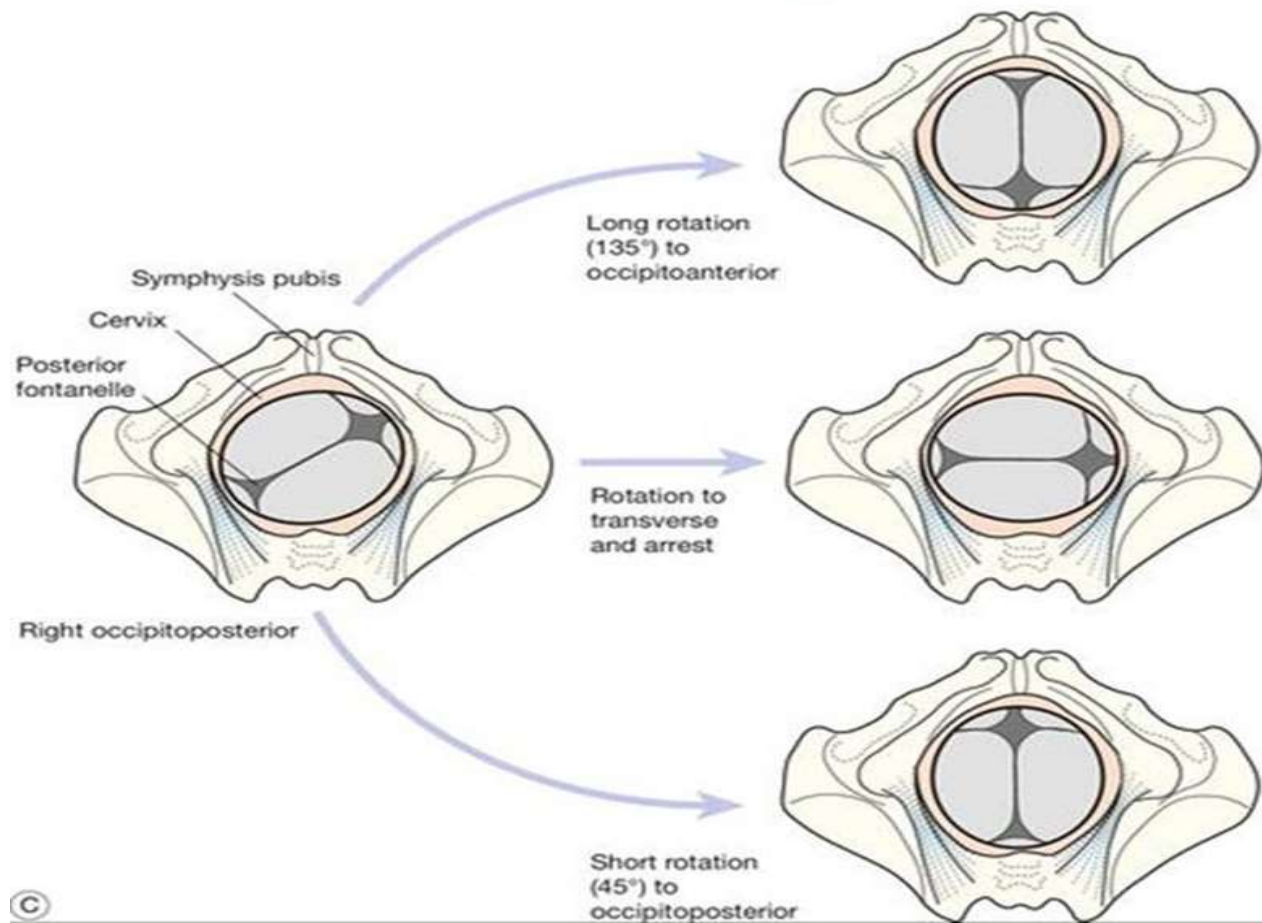
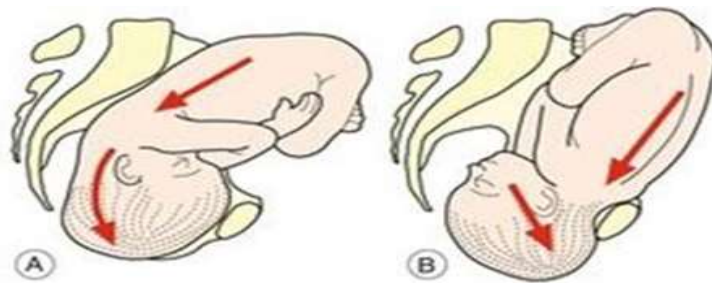
There are then three main possibilities

1.the occiput will rotate anteriorly (through approximately 135°) to occipitoanterior, and then (usually) deliver normally (65%)

2.it will partially rotate to occipitotransverse and not deliver (20%)

3.it will rotate more posteriorly to occipitoposterior (15%).





Those that remain OP have greater difficulty negotiating the birth canal and are less likely to deliver spontaneously. The normal mechanism of delivery involves extension of the head to OA, but extension is not possible in the OP position and a wider diameter is presented to the outlet (occipitofrontal 11.5 cm). With malposition, the first and second stages of labour are usually longer, partly because of the greater presenting diameter (relative cephalopelvic disproportion), and partly because the head is less well applied to the cervix and therefore less able to facilitate its dilatation. Back pain in labour appears to be more common with OP position. The mother is more likely to request an epidural, is more likely to experience secondary arrest due to relative cephalopelvic disproportion, and is more likely to require augmentation with syntocinon.

The possibilities for vaginal delivery in persistent occiput posterior are:

- (1) Spontaneous delivery.
- (2) Forceps delivery with the occiput posterior.
- (3) Manual rotation to the occiput anterior followed by spontaneous or forceps delivery.
- (4) Forceps rotation to occiput anterior and delivery.

Spontaneous Delivery

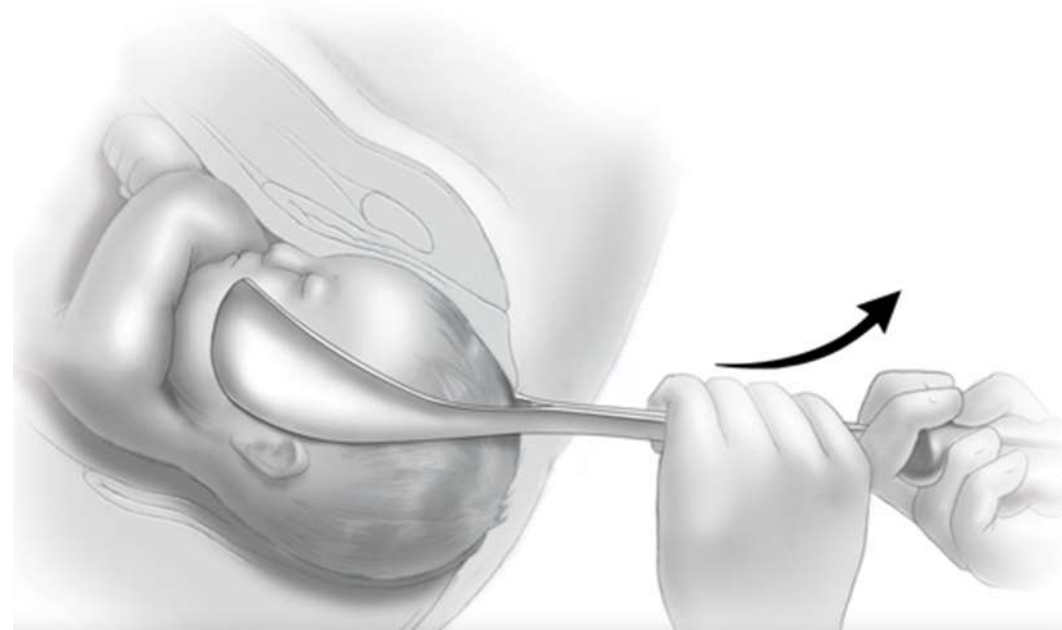
If the pelvic outlet is roomy and the vaginal outlet and perineum are somewhat relaxed from previous deliveries, rapid spontaneous delivery often will take place. If the vaginal outlet is resistant to stretch and the perineum is firm, late first-stage or second-stage labor or both may be appreciably prolonged. During each expulsive effort, the head is driven against the perineum to a much greater degree than when anterior. Therefore, forceps delivery often is indicated. A generous episiotomy usually is needed.

Forceps Delivery as an Occiput Posterior

The need for more traction can be minimized if perineal resistance is lowered by creating a larger episiotomy. The use of forceps and a large episiotomy warrant more complete analgesia than may be achieved with pudendal block and local perineal infiltration. The forceps are applied bilaterally along the occipitomenal diameter.

Infrequently, protrusion of fetal scalp through the introitus is the consequence of marked elongation of the fetal head from molding combined with formation of a large caput succedaneum. In some cases, the head may not even be engaged—that is, the biparietal diameter may not have passed through the pelvic inlet. In these, labor is characteristically long and descent of the head is slow. Careful palpation above the symphysis may disclose the fetal head to be above the pelvic inlet. Prompt cesarean delivery is appropriate.

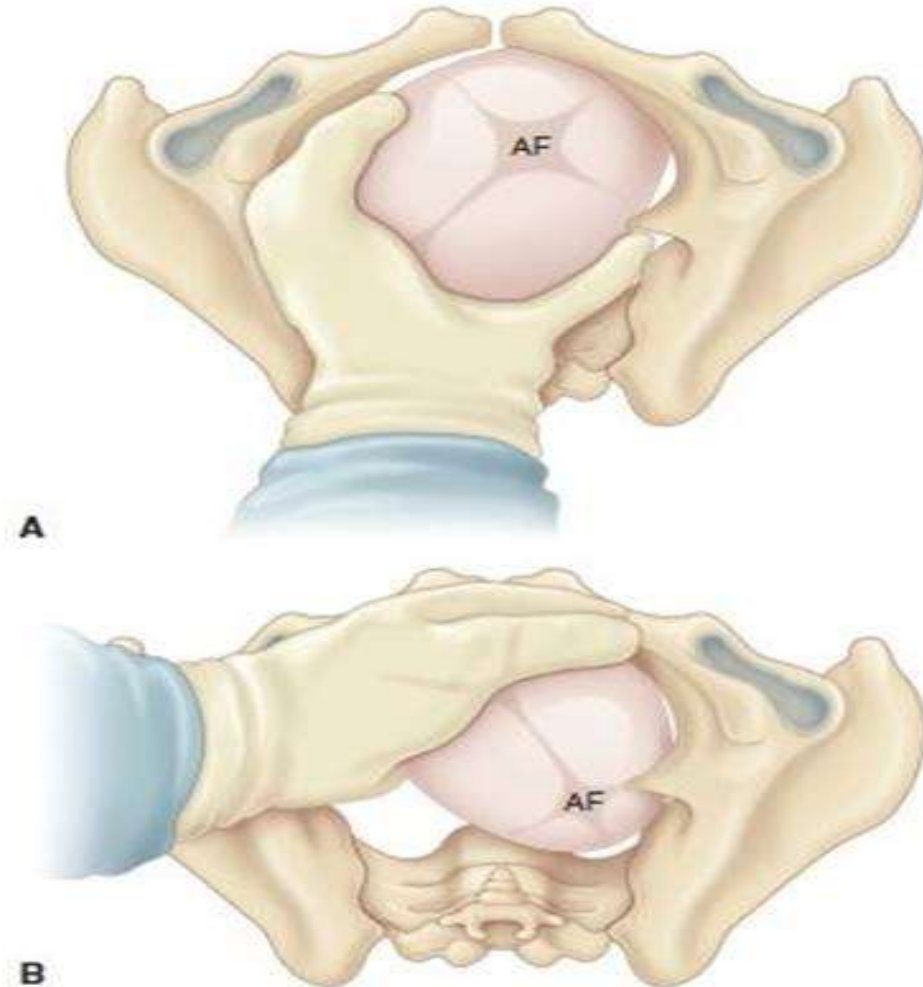
Outlet forceps delivery from an occiput posterior position. The head should be flexed after the bregma passes under the symphysis.



Manual Rotation

The requirements for forceps rotation must be met before performing a manual rotation. When the hand is introduced to locate the posterior ear and thus confirm the posterior position, the occiput often spontaneously rotates toward the anterior position. If not, the head may be grasped with the fingers over one ear and the thumb over the other and rotation of the occiput to the anterior position attempted.

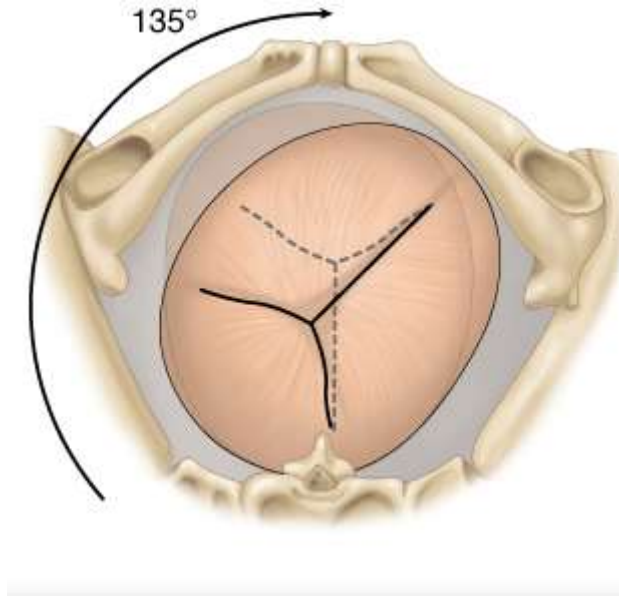
Manual rotation of a fetus in the occipitoposterior position to the occipitoanterior position. (A) The physician's hand is placed palm upward into the vagina. (B) The hand serves as a wedge to flex the fetal head while the fingers exert a rotating force to bring the occiput to anterior. AF, anterior fontanel.



Forceps Rotation

If the head is engaged, the cervix fully dilated, and the pelvis adequate, forceps rotation may be attempted. These circumstances most likely used when expulsive efforts of the mother during the second stage are ineffective.

Forceps Rotations of Occiput Oblique Posterior



Outcome

There are notable differences when persistent occiput posterior position is compared with the occiput anterior. Virtually every possible delivery complication was found more frequently with a persistent occiput posterior. Only 46 percent of these women delivered spontaneously, and they accounted for 9 percent of cesarean deliveries performed. In addition, occiput posterior position at delivery was associated with increased adverse short-term neonatal outcomes. Either manual rotation to the anterior position followed by forceps delivery or forceps delivery from the occiput posterior position is used for the others. If neither can be completed with relative ease, cesarean delivery is performed.

Persistent Occiput Transverse Position

In the absence of a pelvic architecture abnormality or asynclitism, the occiput transverse position is usually transitory. Thus, unless contractions are hypotonic, spontaneous anterior rotation usually is completed rapidly.

Delivery

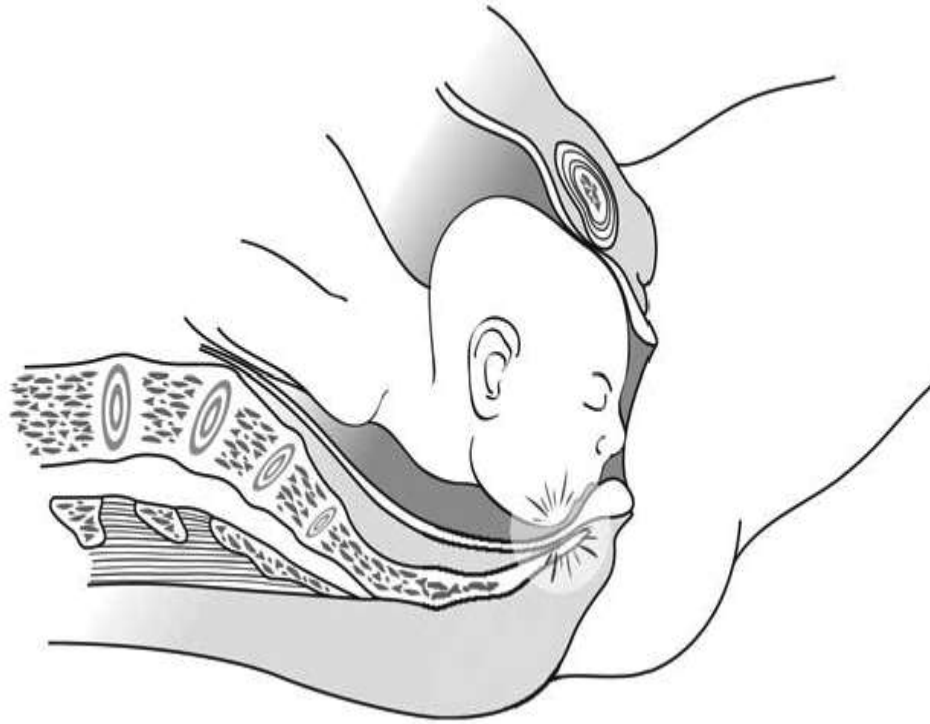
If rotation ceases because of poor expulsive forces and pelvic contractures are absent, vaginal delivery usually can be accomplished readily in a number of ways.

The easiest is that the occiput may be manually rotated anteriorly.

Alternatively, some clinicians apply Kielland forceps to the occiput transverse position. These forceps are used to rotate the occiput to the anterior position. The head is delivered either with the same forceps or with Simpson forceps. If spontaneous rotation fails because of hypotonic uterine contractions without cephalopelvic disproportion, oxytocin may be infused and closely monitored.

The genesis of the occiput transverse position is not always so simple or the treatment so benign. With the platypelloid (anteroposteriorly flattened) and the android (heart-shaped) pelves, there may not be adequate room for rotation of the occiput to either the anterior or the posterior position. With the android pelvis, the head may not even be engaged, yet the scalp may be visible through the vaginal introitus as the consequence of considerable molding and caput formation. Consequently, if forceps delivery is attempted, undue force should be avoided.

Mentoposterior position



Mechanism of Labour:

Long anterior rotation $\frac{3}{8}$ circle ($\frac{2}{3}$ of cases) so the head is delivered as mento-anterior.

In about $\frac{1}{3}$ of cases one of the following may occur:

1. Deep transverse arrest of the face: when the chin rotates $\frac{1}{8}$ circle anteriorly.
2. Persistent mento-posterior: when no rotation occurs.
3. Direct mento-posterior: When the chin rotates $\frac{1}{8}$ circle posteriorly.

In the last 3 conditions no further progress occurs and labour is obstructed.

Direct mento-posterior, unlike direct occipito-posterior, cannot be delivered because:

Delivery should occur by extension while the head is already maximally extended.

As the length of the sacrum is 10 cm and that of neck is only 5 cm, the shoulders enter the pelvis and become impacted while the head still in the pelvis, thus the labour is obstructed.

Management of Labour

Wait for long anterior rotation of the mentum $3/8$ circle and the head will be delivered as mento-anterior. During this period oxytocin is used to compete inertia which is common in such conditions as long as there is no contraindication. Failure of this long rotation is more common than in occipito-posterior position so earlier interference is usually indicated.

Failure of long anterior rotation $3/8$ circle or development of fetal or maternal distress at any time, is managed by:

Caesarean section: which is the safest and the current alternative in modern obstetrics.

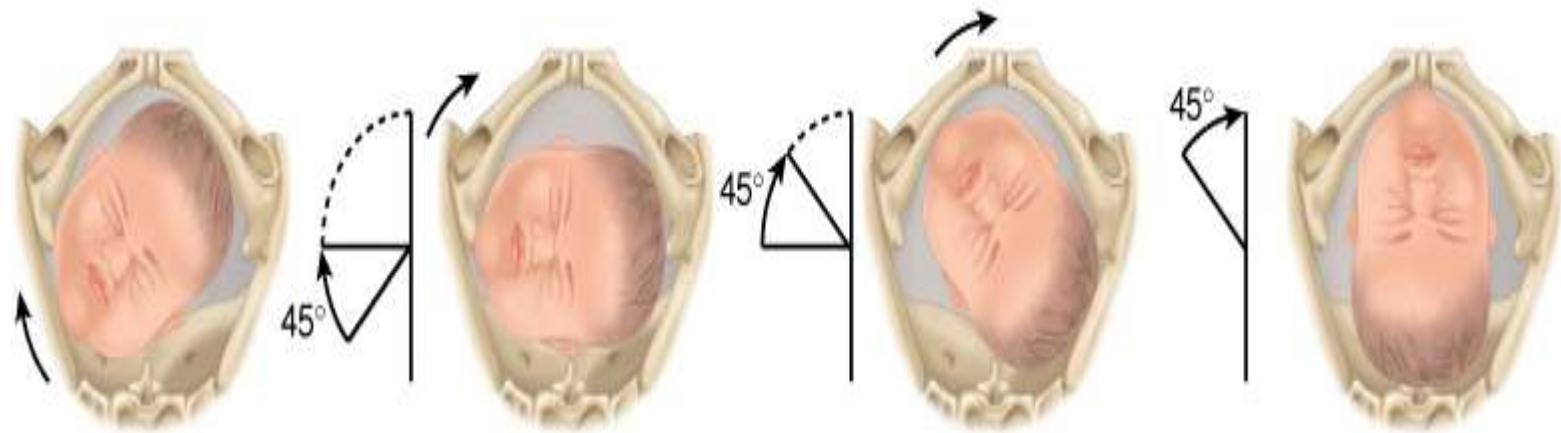
Manual rotation and forceps extraction as mento-anterior, or

Rotation and extraction by Kielland forceps.

In the last 2 methods the head should be engaged but they are hazardous to both the mother and fetus so they are nearly out of modern obstetrics.

Craniotomy: if the foetus is dead.

The face of the fetus is oedematous after delivery so the mother is assured that this will be spontaneously relieved within few days.



Sacro-posterior position

The breech may engage in the transverse diameter of the pelvis, with the sacrum directed anteriorly or posteriorly. Infrequently, rotation occurs in such a manner that the back of the fetus is directed posteriorly instead of anteriorly. Such rotation should be prevented if possible. Although the head may be delivered by allowing the chin and face to pass beneath the symphysis, the slightest traction on the body may cause extension of the head, which increases the diameter of the head that must pass through the pelvis.



Thank you