

OCCIPITO- POSTERIOR POSITIONS

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A review of the whole subject of occipitoposterior positions--with special consideration to the persistent, or obstinate, variety. For the first time practically all of the methods for handling occipitoposterior positions are brought together in one volume.

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INTRODUCTION

IT SEEMS worth while to review and summarize the various opinions regarding occipitoposterior positions, especially because these views present so much diversity. Some writers consider that the posterior occiput poses a major obstetrical problem, causing considerable maternal and perinatal morbidity and mortality. Others feel that there is no justification for such a view, and teach that undue concern regarding these positions is unwarranted. The majority take an intermediate attitude, holding that there is such a thing as dystocia due to the posterior occiput, and that it can be solved by a study of the question as a whole, as well as of the individual cases encountered.

I have endeavored to review the fundamental contributions to this subject, but have not attempted to study in detail every paper that has been written, as most of them are elaborations of one or another of what might be called the major presentations. It appears that much more attention has been paid to this subject in the North American literature than in that of other countries. However, an exhaustive study of the writings in other lands has not been conducted, but various representative texts have been consulted in order to secure some insight into the views of others.

The technics of the various methods employed in the management of the posterior occiput have been abstracted or quoted verbatim (Smellie and Scanzoni), from the writings of the obstetricians originating these procedures. Their illustrations also have been reproduced. It is felt

that thereby this presentation has been made more interesting and authoritative.

I wish to express my sincere thanks to the Editor of this Series, Dr. Edwin C. Hamblen, for his cooperation and to the publishers as well for their collaboration. My associates, Drs. Isadore Dyer and John A. King, have been most helpful with their advice and suggestions. My amanuensis, Miss Lily T. Bittenbring, has been familiar with my peculiar handwriting for many years, and has done a wonderful job of transcribing it into legible type. Special thanks are due to the authors whose tables and illustrations have been placed at my disposal, and to the various publishers of their textbooks and articles for permitting their incorporation in this monograph.

I hope that this presentation will be of some value to teachers, students and practitioners of obstetrics. Most of us belong in all three categories.

E. L. K.

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**OCCIPITOPOSTERIOR
POSITIONS**

Chapter 1

GENERAL CONSIDERATIONS

IT IS GENERALLY agreed that, in the vertex variety of cephalic presentation, the fetal head usually enters the maternal pelvis with the sagittal suture lying in the transverse diameter of the inlet. This can be determined by vaginal examination early in labor, and often can be demonstrated by the roentgen ray before labor begins. Occasionally the occiput will be found, by vaginal examination or by skiagraph, to be slightly posterior to the midline at this stage. In most primigravidae and in many multigravidae descent into the maternal pelvis occurs in varying degrees before the onset of clinical labor.

As is well known, in about 65 per cent of all vertex presentations the occiput is to the left, and it is directed to the mother's right side in approximately 35 per cent. Stander's figures are 73.9 and 35.23 per cent respectively; in .87 per cent of his cases the occiput was located directly anteriorly or posteriorly.

Steele and his collaborators, as well as Caldwell, Moloy, and D'Esopo, give slightly different figures, as set forth in Tables I and II. These tables also substantiate the statement made above regarding the usual occurrence of engagement with the sagittal suture in the transverse diameter of the pelvic inlet.

If the fetal back (and hence the occiput) is on the mother's left side, the occiput will rotate anteriorly as labor progresses in the majority of cases, but in an appreciable minority posterior rotation will occur. On the other hand,

TABLE 1

<i>Descent of Head</i>	L.O.T.	R.O.T.	L.O.A.	R.O.A.	O.A.	R.O.P.	L.O.P.	O.P.	<i>Number of cases</i>
Above or at inlet	39.9	23.5	13.2	9.6	1.8	7.3	3.0	.7	763
At, above or below spines	33.7	28.8	11.9	5.7	2.8	11.5	3.2	1.8	277

(From Eastman, Nicholson J.: *Williams Obstetrics, Eleventh Edition* 1956 Courtesy of Dr. Eastman and of Appleton-Century-Crofts, Inc.)

TABLE 2
ENGAGEMENT WITHOUT REGARD TO TYPE (OF PELVIS) BASED ON 200 CASES

	<i>No. of Cases</i>		<i>Per Cent</i>		<i>Total Percentages</i>	
	<i>No. of Cases</i>	<i>Per Cent</i>	<i>No. of Cases</i>	<i>Per Cent</i>		
R.O.P.	19	9.5	L.O.P.	9	Obliquely posterior	18.5
R.O.T.	39	19.5	L.O.T.	81	Transverse	60
R.O.A.	13	6.5	L.O.A.	19	Obliquely anterior	16
Direct O.A.	11	5.5			Directly anterior	5.5
Right Position	71	35.5	Left Position	118		100.0

(Modified from Table IV, Caldwell, Moley and D'Esopo: Engagement of the Fetal Head, *Tr. Am. Gynec. Soc.*, 59: 141, 1934.)

if the occiput is to the mother's right side, it will almost routinely, during early labor, rotate posteriorly; primary anterior rotation on this side is extremely rare. It seems that the fetal head, after labor is well established and the head is well down, fits the maternal pelvis best with the sagittal suture in the right oblique diameter; the reasons suggested will be discussed later. Thus, the relative frequency of the various vertex presentations, during labor will be: (1) L.O.A., (2) R.O.P., (3) L.O.P., and (4) R.O.A. Calkins states the proportions as follows (out of a total of 12), L.O.A. 5, R.O.P. 4, L.O.P. 2, R.O.A. 1. According to Danforth, the right posterior position is six to seven times more frequent than the left.

At times, there is no rotation, even after the completion of the first stage of labor, and the fetal head will descend deeply into the maternal pelvis with the sagittal suture still in the transverse diameter, with the cervix fully effaced and dilated. If no further progress occurs, this condition is called deep transverse arrest. Strong labor pains may eventually produce anterior rotation, in which case labor will proceed; if this does not occur, correction of the position by operative measures will be necessary. Occasionally, in a contracted pelvis, transverse arrest may develop at a higher level.

In a posterior position of the occiput anterior rotation through 135° usually occurs. This may be either during the latter part of the first stage of labor, or sooner or later in the second stage. Some authorities claim that this rotation occurs only in the second stage. In a multigravida the change often takes place with startling suddenness during a single uterine contraction, even before the end of the first stage. In a primigravida, this rotation is gradual, and is seldom completed in the first stage; usually, a period of from one-half to two hours in the second stage is required

for this change of position, generally after the head has reached the pelvic floor.

Very infrequently, usually in the anthropoid pelvis, the head engages and descends with the occiput directly posteriorly. Posterior rotation of the occiput from R.O.P., or L.O.P. through 45° may occur, but this also is rare. This position is called occiput-sacral.

In view of the fact that engagement of the head practically always occurs (in the normal pelvis) with the sagittal suture in the transverse diameter of the inlet, with later rotation, the diagnosis of occipitoposterior cannot be made prior to engagement. Abdominal palpation will show us that the presentation is longitudinal, of the cephalic variety, and that the back is either to the mother's left (approximately 65 per cent), or to the right (35 per cent). The small parts, of course, will be found on the opposite side. Motion of these parts may be seen, as well as felt, especially in a multigravida. If the abdominal wall is obese, or is very tense, or there is an excessive amount of amniotic fluid, palpation may not aid the examiner in locating the back or the small parts. Auscultation will disclose the fetal heart tones, generally heard loudest (and at times solely) on the side of the maternal abdomen on which the fetal back is located. At times, however, the heart tones will be heard with equal distinctness on both sides. The point of maximum intensity is usually the midpoint of a line between the umbilicus and the anterior superior iliac spine. However, if the head be floating, the fetal heart tones may be heard best on a level with, or even above, the umbilicus.

After engagement and descent of the fetal head in an occipitoposterior position, the picture changes and the diagnostic findings will be altered. The back of the fetus is now somewhat posterior, and the small parts are seen and felt on the opposite side. The cephalic prominence is

also anterior, and on the same side as the small parts. Again, these findings may be obscured by a thick or tense abdominal wall, or by an excess of amniotic fluid. The fetal heart tones may be heard most distinctly below the umbilicus and somewhat posteriorly, through the fetal back. They may be heard just as well anteriorly on the same side, however, and in case the membranes have ruptured, they may be heard just as distinctly on the side of the uterus containing the small parts. The point of maximum intensity of the fetal heart tones, therefore, is of little aid in locating the fetal back.

After the onset of labor abdominal examination is of little value in the diagnosis of an occiput posterior position, particularly in a primigravida. Palpation is unsatisfactory, and the position of the fetal heart tones, as noted above, is of still less assistance. If the membranes have ruptured (and early rupture of the membranes is frequent in occiput posterior positions) the abdominal findings will give little or no clue. We must fall back on the generalization that if the back is to the left, the occiput will nearly always rotate anteriorly; if it is to the right, posterior rotation is the rule.

Definite diagnosis, therefore, depends upon the internal pelvic examination. The rectal examination that is routinely made soon after the onset of labor may locate the sagittal suture if the cervix is sufficiently effaced, the external os is somewhat dilated, and the head has descended sufficiently to be reached easily. Very rarely, the large fontanel or the occiput may be palpated rectally. It is certain, however, that frequently a primary occipitoposterior position, in a labor conducted exclusively by rectal touch, is not diagnosed correctly. The head rotates anteriorly, delivery occurs, the original position has not been ascertained, and all is well.

However, if a vaginal examination is made early in

labor, we obtain valuable information. Parenthetically, it might be remarked that the danger of infection from a properly conducted vaginal examination is practically nil. The sagittal suture can be located, and in most instances, even through a cervix only 4-5 cms. dilated, one of the fontanels can be palpated. At this stage, if the sagittal suture is transverse and the occiput is to the right, we can expect primary posterior rotation to occur, while with the occiput to the left anterior rotation is the rule. Of course, if the occiput is already posterior, right or left, the obstetrician is forewarned and forearmed. It should be noted that if the head is well flexed the occiput is the more easily located landmark, lying at the posterior extremity of the sagittal suture, in one of the posterior quadrants of the pelvis. If the head is somewhat extended the large fontanel is more accessible at the other end of this suture, in one of the anterior quadrants. If there is much molding of the head, or a well developed caput succedaneum is present, the sutures and fontanels may be so distorted that they cannot be well outlined. In such a case, palpation of an ear, by the introduction of the whole hand under anesthesia, is performed. Most obstetricians prefer to locate the posterior ear; some search for the anterior ear behind the symphysis pubis.

As has been mentioned, in the majority of instances the occiput that has rotated posteriorly will rotate anteriorly through an angle of 135° and will be delivered beneath the symphysis. The frequency of spontaneous anterior rotation is given by various authors as 50 to 70 per cent (e.g., Danforth, 65.6 per cent). Others give much lower figures (e.g., *Dodek, 30.5 per cent). It seems that the earlier vaginal examinations detect the larger number of pos-

* Quoted by Bill.

terior positions, most of them of a transient nature. At any rate, in some instances rotation does not occur, in others it is tedious (with much maternal discomfort and possible fetal damage), and in a few the occiput rotates posteriorly, into the hollow of the sacrum. Many obstetricians feel that delayed rotation or failure of rotation is associated with an elevation of the infantile death rate and with increased maternal trauma and exhaustion. Some feel that these fears are greatly exaggerated, and that intelligent expectancy is all that is needed.