

References and Introduction for:

Outlet Anterior Posterior Diameter: Can new values for dynamic coccygeal extension increase outlet APDs and physician-maternal confidence in vaginal route deliveries?

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Opinion Paper

Introduction:

A review of the literature revealed an array of data questioning the sensitivity and clinical usefulness of pelvimetry in predicting route of delivery, except in cases where cephalopelvic disproportion (CPD) was clear. While both pelvic and fetal imaging has improved with ultrasound, computed tomography (CT) and magnetic resonance imaging (MRI), surgical route deliveries remain at an all time high(1).

This paper discusses a dynamic assessment for measuring outlet anterior posterior diameter (APD) based on normal natal physiologic extension of the coccygeal segments and the enveloping musculoligamentous pelvic floor. This dynamic assessment assumes that normal cephalic vaginal deliveries are most likely to occur when all obstetrical conjugates are fully patent, including the outlet which depends upon optimal coccygeal extension, necessary for full supple floor distension at crowning. Historically, choice of route of delivery has been influenced by pelvimetry that based its outlet APD assessments on static rather than dynamic pubococcygeal dimensions. Despite excellent inter-observer reliability for inlet the mid-pelvic plane conjugates(2) realistic assessment of actual outlet capacity may be further obscured by inconsistencies in choice of anatomical landmarks ostensibly due to common, multiple coccygeal morphologies and varying alignment configurations.



The proposed prenatal obstetrical assessment combines tests specific for dynamic coccygeal function, with lateral view imaging, to better screen for coccyges known to be subject to 45-90 degrees of anterior angular deviation(3). As anterior coccygeal angulation progresses toward 90-degrees (Fig.1,2) reduction in outlet APD of 1-3 centimeters is possible. Obstetricians are skilled in bi-manual palpation and manipulation and can readily differentiate and grade coccygeal function ranging from obstructive hypomobility to a yielding resiliency. Deference to these genetic and trauma-induced variations in coccygeal function alike, in this way, may help reduce CPD impressions while improving obstetrical confidence in many given cases. And while neither the author desires to practice obstetrics, nor the obstetrician therapeutics or orthopedics, perhaps both are given to the same purpose, if pelvic floor mechanics can be set back into function with little more than a minute's worth of effort in the grand scheme of parturition.

References:

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2. Anderson N, Humphries N, Wells JE. Measurement error in computed tomography pelvimetry. Australasian Radiology 2005;49:104-7.
3. Kim N, Suk K. Clinical and radiological differences between traumatic and idiopathic coccygodynia. Yonsei Med J 1999;40:3215-20. 1981;246(19):2187-8.

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