

Assessment of Gravid Cervix  
EVIDENCE TABLE

Reference	Study Type	Patients/ Events	Study Objective (Purpose of Study)	Study Results	Strength of Evidence
1. Palmer R, Lacomme M. La béance de l'orifice interne, cause d'avortements à répétition? Une observation de déchirure cervico-isthmique réparée chirurgicalement avec gestation à term consécutive. <i>Gynec et Obst</i> 1948; 47:905-906.	15	N/A	The term <i>cervical incompetence</i> was first introduced.	N/A	N/A
2. Ludmir J. Sonographic detection of cervical incompetence. <i>Clin Obstet Gynecol</i> 1988; 31(1):101-109.	12	N/A	Review article on role of sonography for diagnosis of cervical incompetence.	No results stated.	4
3. Ayers JW, DeGroot RM, Compton AA, et al. Sonographic evaluation of cervical length in pregnancy: diagnosis and management of preterm clinical effacement in patients at risk for premature delivery. <i>Obstet Gynecol</i> 1988; 71(6Pt1):939-944.	13	150 normal pregnant women 88 pregnant women with prior 2nd trimester losses	1. To measure cervical length (using transabdominal US) in normal patients to establish normal values. 2. In the group of high risk patients, cervical length was used to determine management.	<ul style="list-style-type: none"> <li>In normal patients, mean cervical length was 52 ± 12 mm before 34 weeks.</li> <li>In 88 high risk patients, cerclage was placed in 70 patients (79%) when cervical length was &lt;40 mm.</li> <li>Conclusion: Cervical length measurement may be a useful adjunct in assessing anatomic cervical integrity, and for the decision of cerclage placement. The presence of both premature cervical shortening and preterm contractions in 65% of high risk pts suggested that cervical incompetence and premature contractions are not distinct entities, but common symptoms associated with increased risk of preterm delivery.</li> </ul>	2
4. Buckingham JC, Buethe RA, Jr., Danforth DN. Collagen-Muscle Ratio In Clinically Normal And Clinically Incompetent Cervices. <i>Am J Obstet Gynecol</i> 1965; 91:232-237.	3b	12 clinical cervical incompetency 45-normal 6-cervices	Comparative study to determine histologically the actual proportions of muscle and collagen in normal and incompetent cervices.	Amount of muscle is higher in patients with clinical cervical incompetency. Confirms thesis that excessive amounts of muscle may be a factor in the production of cervical incompetency. Cervical incompetency results from a combination of factors.	2

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5. Iams JD, Goldenberg RL, Meis PJ, et al. The length of the cervix and the risk of spontaneous premature delivery. National Institute of Child Health and Human Development Maternal Fetal Medicine Unit Network. <i>N Engl J Med</i> 1996; 334(9):567-572.	13	2,915	Prospective, multicenter study: 1. To measure cervical length (using vaginal US), and to document incidence of spontaneous delivery before 35 weeks. 2. To calculate relative risk (RR) for preterm delivery based on cervical length.	RR of preterm delivery increases as cervical length decreases. At 24 weeks gestation age (RR was: (also done at 28 weeks) <ul style="list-style-type: none"> <li>• Cervix length at or below 40 mm (75th percentile); RR=1.98</li> <li>• Cervix length at or below 35 mm (50th percentile); RR=2.35</li> <li>• Cervical length at or below 30 mm (25th percentile); RR=3.79</li> <li>• Cervical length at or below 26 mm (10th percentile); RR=6.19</li> <li>• Cervical length at or below 22 mm(5th percentile ); RR=9.49</li> <li>• Cervical length at or below 13mm(1st percentile) RR=13.99</li> </ul>	1
6. Iams JD, Johnson FF, Sonek J, Sachs L, Gebauer C, Samuels P. Cervical competence as a continuum: a study of ultrasonographic cervical length and obstetric performance. <i>Am J Obstet Gynecol</i> 1995; 172(4 Pt 1):1097-1103; discussion 1104-1096.	3b	323 pregnant women with ≥1 preterm delivery. 32 women with incompetent cervical. 106 normal controls.	1. To serially measure cervical length (using vaginal US) in women with history of preterm delivery at ≤26 weeks, 27-32 weeks, 33-35 weeks. 2. To compare these measurements to women with cervical incompetence and normal controls.	The gestational age of the first preterm delivery was significantly correlated with cervical length in the current pregnancy at each gestational interval between 20 and 30 weeks in a continuous manner. This is consistent with cervical competence as a continuous rather than a dichotomous variable. It also suggests a continuum with cervical length as an indirect indicator of its degree of competence.	2
7. Andersen HF, Nugent CE, Wanty SD, Hayashi RH. Prediction of risk for preterm delivery by ultrasonographic measurement of cervical length. <i>Am J Obstet Gynecol</i> 1990; 163(3):859-867.	9	178	1. To compare transabdominal US, transvaginal US, and digital cervical length measurements. 2. To determine which method of measurement best predicts preterm delivery risk.	<ul style="list-style-type: none"> <li>• Endovaginal cervical length of &lt;39 mm was associated with significant increased incidence of preterm labor (detected 76% of preterm births).</li> <li>• Manual exam of cervical effacement detected 71% of preterm births.</li> <li>• Transabdominal measurements of cervical length were not predictive.</li> </ul>	2

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8. Gomez R, Galasso M, Romero R, et al. Ultrasonographic examination of the uterine cervix is better than cervical digital examination as a predictor of the likelihood of premature delivery in patients with preterm labor and intact membranes. <i>Am J Obstet Gynecol</i> 1994; 171(4):956-964.	9	59	Compare performance of endovaginal US (measured cervical length, funneling parameters, and cervical index), to digital cervical examination in the prediction of pregnancy outcome.	Receiver-operator characteristic (ROC) curve and logistic regression analysis indicated a significant relationship between the occurrence of preterm delivery and the US cervical parameters ( $p < 0.005$ for each), but not with the results of the digital cervical examination. Conclusion: Endovaginal US exam of cervix is more accurate than digital exam of the cervix in women in preterm labor.	2
9. Iams JD, Paraskos J, Landon MB, Teteris JN, Johnson FF. Cervical sonography in preterm labor. <i>Obstet Gynecol</i> 1994; 84(1):40-46.	9	48 singleton pregnancies; 12 twin pregnancies	To assess dilatation and effacement in women in preterm labor, a comparison was done using transvaginal US, and digital cervical evaluation to determine cervical length measurements.	<ul style="list-style-type: none"> <li>• ROC curve showed that digital exam could not predict preterm birth based on dilatation and effacement.</li> <li>• In 24 women with preterm delivery, each had a sonographic cervical length less than 30 mm.</li> <li>• None of 15 women whose sonographic cervical length was <math>\geq 30</math> mm delivered before 36 weeks.</li> </ul>	2
10. Jackson GM, Ludmir J, Bader TJ. The accuracy of digital examination and ultrasound in the evaluation of cervical length. <i>Obstet Gynecol</i> 1992; 79(2):214-218.	9	20 nongravid patients	To compare digital cervical length measurements with transabdominal and transvaginal cervical length measurements and to compare these results with length of cervix measured with a ruler following hysterectomy.	<ol style="list-style-type: none"> <li>1. Digital examination underestimated cervical length by an average of 13.6mm and was significantly shorter than ruler measurement (<math>p = .0001</math>).</li> <li>2. Neither US method differed significantly from the ruler measurement. Measurements were similar between the sonographic techniques (<math>p &gt; .9</math>).</li> </ol>	3
11. Lim BH, Mahmood TA, Smith NC, Beat I. A prospective comparative study of transvaginal ultrasonography and digital examination for cervical assessment in the third trimester of pregnancy. <i>J Clin Ultrasound</i> 1992; 20(9):599-603.	9	81 patients at 37 to 42 weeks gestation age	Digital and transvaginal US were used to assess and compare cervical length and dilatation in third trimester of pregnancy.	No significant difference between mean measured cervical lengths was noted for the two methods of measurement (but authors claimed that "digital exam tended to underestimate cervical length"). Mean cervical dilatation measured by digital exam was significantly greater than vaginal US determination ( $p < 0.003$ ).	2
12. Mahony BS, Nyberg DA, Luthy DA, Hirsch JH, Hickok DE, Petty CN. Translabial ultrasound of the third-trimester uterine cervix. Correlation with digital examination. <i>J Ultrasound Med</i> 1990; 9(12):717-723.	9	94 patients at 29 to 42 weeks gestation age (mean=34 weeks)	Prospective blinded study to compare translabial US (TLU) and digital palpation of the cervix among women whose cervix could not be visualized adequately or at all with transabdominal US during the 3rd trimester of pregnancy.	Excellent correlation ( $R = .90$ ) between cervical length on TLU and percent of cervical effacement on digital exam (1.5 cm cervical length $\cong$ 50% effacement; 1.0 cm cervical length $\cong$ 75% effacement). Poor correlation ( $R = .58$ ) between amount of cervical dilatation on TLU and on digital exam.	2

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13. Sonek JD, Iams JD, Blumenfeld M, Johnson F, Landon M, Gabbe S. Measurement of cervical length in pregnancy: comparison between vaginal ultrasonography and digital examination. <i>Obstet Gynecol</i> 1990; 76(2):172-175.	9	56 patients at risk for preterm delivery. 27 patients without risk factors. Total =83 patients	<ol style="list-style-type: none"> <li>To establish an accurate method of cervical length measurement using a vaginal probe.</li> <li>Comparison of cervical length with digital examination (only done in patients who were at risk).</li> <li>Exams were done in all trimesters of pregnancy.</li> </ol>	<ul style="list-style-type: none"> <li>During the 2nd trimester, in 87% of patients, cervical length measurements (by digital exam) was less than US lengths (average difference = 14.1mm).</li> <li>During the 3rd trimester, in 84% of patients, cervical length measurements (by digital exam) was less than US lengths (average difference = 10.2mm).</li> <li>Conclusion: There was poor correlation (R=.49) between the 2 methods of measurement.</li> </ul>	2
14. Yazici G, Yildiz A, Tiras MB, Arslan M, Kanik A, Oz U. Comparison of transperineal and transvaginal sonography in predicting preterm delivery. <i>J Clin Ultrasound</i> 2004; 32(5):225-230.	9	357 pregnant women	To compare transvaginal sonography (TVUS) and transperineal sonography (TPUS) at 24 weeks of gestation in predicting preterm delivery in low-risk pregnancy.	Preterm delivery (<36 weeks) occurred in 22 pregnancies. Mean cervical lengths measured by TVUS and TPUS were significantly different in preterm and term delivery groups ( $p<0.05$ ). Areas under the curves were 0.801 and 0.857 for the transvaginal and transperineal measurements, respectively. Concludes that TPUS can predict preterm delivery as accurately as TVUS when the cervix is well visualized.	2
15. Hertzberg BS, Bowie JD, Weber TM, Carroll BA, Kliewer MA, Jordan SG. Sonography of the cervix during the third trimester of pregnancy: value of the transperineal approach. <i>AJR Am J Roentgenol</i> 1991; 157(1):73-76.	10	158 third trimester patients	<ol style="list-style-type: none"> <li>A prospective study was done to assess the efficacy of using the transperineal approach to examine the cervix.</li> <li>In each case, an initial attempt to examine the cervix by transabdominal scanning (with empty maternal bladder) was inadequate.</li> </ol>	<ul style="list-style-type: none"> <li>In all 158 patients, the internal os and upper cervix were successfully visualized on transperineal scans.</li> <li>The external os was obscured by rectal gas in 22 (14%) of cases.</li> </ul>	2
16. Hertzberg BS, Kliewer MA, Baumeister LA, McNally PB, Fazekas CK. Optimizing transperineal sonographic imaging of the cervix: the hip elevation technique. <i>J Ultrasound Med</i> 1994; 13(12):933-936; quiz 1009-1010.	13	23 pregnant patients	To determine if a hip elevation technique could improve visualization of a partially obscured cervix. Each scan used the transperineal approach.	In 19/23 cases (83%) the “hips up” maneuver improved cervical visualization. In 4 patients cervical visualization was not improved using this technique. Concluded that this technique is not necessary in most patients who are scanned transperineally, but it should be used when supine scans are suboptimal for cervical visualization.	3

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17. Guzman ER, Rosenberg JC, Houlihan C, Ivan J, Waldron R, Knuppel R. A new method using vaginal ultrasound and transfundal pressure to evaluate the asymptomatic incompetent cervix. <i>Obstet Gynecol</i> 1994; 83(2):248-252.	10	150 pregnant patients without pregnancy loss 31 asymptomatic pregnant patients	<ol style="list-style-type: none"> <li>To determine if transfundal pressure applied while scanning the cervix may assist in detecting asymptomatic incompetent cervix. Technique consisted of applying transfundal pressure for approximately 15 seconds in the direction of the uterine axis.</li> <li>The control patients were scanned a single time between 16 and 24 weeks gestational age. The at-risk patients were studied 73 times between 8 and 25 weeks gestational age.</li> </ol>	<ul style="list-style-type: none"> <li>Transfundal pressure elicited no change in internal os in 150 control patients.</li> <li>Transfundal pressure elicited opening of the internal os or descent of the fetal membranes in 14/31 (45%) patients who were at risk.</li> </ul>	2
18. Wong G, Levine D, Ludmir J. Maternal postural challenge as a functional test for cervical incompetence. <i>J Ultrasound Med</i> 1997; 16(3):169-175.	13	24 pregnant patients without pregnancy loss. 41 patients at high risk due to incompetent cervix.	<ol style="list-style-type: none"> <li>To evaluate whether a postural challenge (consisting of an upright maternal position) can be used to detect early changes in patients with incompetent cervix. Technique consisted of examining the cervix by vaginal US with the patient supine for at least 15 minutes, and then reexamining the cervix after she had been standing for at least 15 minutes.</li> <li>The control patients were scanned a single time; the at-risk patients were studied 74 times. In all cases gestation age ranged from 17-33 weeks.</li> </ol>	<ul style="list-style-type: none"> <li>In 24 control patients, maternal postural challenge test elicited no change in cervical length. Each of these patients delivered at term.</li> <li>Of 41 at risk patients, maternal postural challenge test demonstrated a greater than 33% decrease in cervical length in 16 patients (14 of whom delivered prematurely). Only 1/25 at risk patients who had a decrease of less than 33% delivered prematurely.</li> <li>The sensitivity of a postural change in patients at risk for preterm delivery was 93.3%, and the specificity was 92.3%.</li> </ul>	2
19. Iams JD. Cervical ultrasonography. <i>Ultrasound Obstet Gynecol</i> 1997; 10(3):156-160.	12	N/A	<p>Review cervical sonography in:</p> <ul style="list-style-type: none"> <li>women with suspected cervical incompetence,</li> <li>women with symptoms of preterm labor in the current pregnancy,</li> <li>asymptomatic pregnant women with risk factors for preterm birth,</li> <li>asymptomatic pregnant women without risk factors for preterm birth.</li> </ul>	Cervical sonography has been a major technical advance in the fight against preterm birth. New advances will result from prospective studies conducted in women with risk factors for preterm birth.	4
20. Timor-Tritsch IE, Boozarjomehri F, Masakowski Y, Monteagudo A, Chao CR. Can a "snapshot" sagittal view of the cervix by transvaginal ultrasonography predict active preterm labor? <i>Am J Obstet Gynecol</i> 1996; 174(3):990-995.	10	70	To test the hypothesis that wedging of the cervical internal os determined by transvaginal US is related with premature labor and delivery. Bivariate and logistic regression analysis was performed to determine the variables that contributed significantly to the prediction of preterm delivery.	<ul style="list-style-type: none"> <li>Significant findings associated with preterm delivery were cervical wedging and short cervical length (sensitivity 100%, specificity 74.5%, PPV 59.4% NPV 100%).</li> <li>Not significant were maternal age, prior pregnancy termination, gestational age, prior normal vaginal delivery.</li> </ul>	2

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21. Ziliani M, Azuaga A, Calderon F, Pages G, Mendoza G. Monitoring the effacement of the uterine cervix by transperineal sonography: a new perspective. <i>J Ultrasound Med</i> 1995; 14(10):719-724.	10	86 patients with term pregnancies	To use US to objectively visualize sequential cervical changes associated with normal delivery.	Documented a predictive and orderly sequence of cervical changes associated with normal delivery. With respect to the appearance of the internal os and progressive cervical dilatation, these changes can be graphically represented using the letters "T, Y, V, U".	2
22. Rust OA, Atlas RO, Kimmel S, Roberts WE, Hess LW. Does the presence of a funnel increase the risk of adverse perinatal outcome in a patient with a short cervix? <i>Am J Obstet Gynecol</i> 2005; 192(4):1060-1066.	13	279 pregnant patients	To determine whether the presence of funneling alters the outcome of patients with a short cervix.	<ul style="list-style-type: none"> <li>The No Funnel group had significantly less readmissions for preterm labor (43.2% vs 67.1 %, <math>p=.004</math>), chorioamnionitis (2.4% vs 23.2 %, <math>p=.0002</math>), abruption (1.2% vs 13.4 %, <math>p=.007</math>), preterm rupture of membranes (6.1% vs 23.4%, <math>p=.002</math>), and cerclage placement (23.2% vs 43 %, <math>p=.008</math>).</li> <li>The neonates in the no funnel group delivered later (36.2% +/- 4.6 vs 33.8 +/- 5.4 weeks, <math>p=.003</math>), and had less morbidity and mortality (17.1% vs 37.8 %, <math>p=.02</math>) compared with the Funnel group.</li> <li>Conclusion: The disruption of the internal os, as documented by funneling, is a significant risk factor for adverse perinatal outcome.</li> </ul>	2
23. de Carvalho MH, Bittar RE, Brizot Mde L, Bicudo C, Zugaib M. Prediction of preterm delivery in the second trimester. <i>Obstet Gynecol</i> 2005; 105(3):532-536.	10	1,958 singleton pregnancies	To estimate the probability of spontaneous delivery at 34 weeks or less according to cervical assessment by transvaginal scan associated with previous obstetric history.	Logistic regression analysis demonstrated that cervical length, funneling, and history of previous preterm delivery were independent contributors for preterm delivery. US cervical assessment may be useful in the prediction of preterm delivery, but it should also be considered in association with the obstetric history of prematurity.	1
24. Dilek TU, Gurbuz A, Yazici G, et al. Comparison of cervical volume and cervical length to predict preterm delivery by transvaginal ultrasound. <i>Am J Perinatol</i> 2006; 23(3):167-172.	10	250 pregnant women	To evaluate predictive value of cervical volume and length measurement by transvaginal US for preterm delivery in low-risk pregnancies.	Cervical volume measurement by two-dimensional US did not add any benefit compared with the cervical length measurement for prediction of preterm delivery.	2
25. Owen J, Yost N, Berghella V, et al. Can shortened midtrimester cervical length predict very early spontaneous preterm birth? <i>Am J Obstet Gynecol</i> 2004; 191(1):298-303.	13	183	Secondary analysis undertaken to test the hypothesis that shortened midtrimester cervical length is more predictive of early (<26 weeks) than later (26-34 weeks) spontaneous preterm birth.	Shortened cervical length in the midtrimester preferentially predicts early, as opposed to later, spontaneous preterm birth in high-risk women.	1

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26. Yost NP, Owen J, Berghella V, et al. Second-trimester cervical sonography: features other than cervical length to predict spontaneous preterm birth. <i>Obstet Gynecol</i> 2004; 103(3):457-462.	13	181	Secondary analysis of blinded trial to estimate whether cervical and lower uterine segment characteristics other than cervical length and funneling predict recurrent preterm birth.	Endocervical canal dilation of 2-4 mm during second-trimester endovaginal sonography was associated with an increased risk of recurrent preterm delivery independent of cervical length.	1
27. Groom KM, Bennett PR, Golara M, Thalon A, Shennan AH. Elective cervical cerclage versus serial ultrasound surveillance of cervical length in a population at high risk for preterm delivery. <i>Eur J Obstet Gynecol Reprod Biol</i> 2004; 112(2):158-161.	9	39 cases of elective cervical cerclage were matched to 39 patients undergoing serial US surveillance	To compare pregnancy outcome in patients undergoing elective cerclage vs serial assessment of cervical length with cerclage only if indicated.	<ul style="list-style-type: none"> <li>• Cervical cerclage was performed in 14 (36%) of the control cases due to cervical changes.</li> <li>• There was no significant difference in median gestation at delivery (266 days vs 260 days <math>p=0.9</math>), number delivering &lt;24 weeks (15% vs 13% <math>p=0.9</math>), at 24-32 weeks (7.5% vs 15% <math>p=0.6</math>) and at 32-37 weeks (15% vs 13% <math>p=0.9</math>).</li> <li>• Conclusion: Serial transvaginal US surveillance of cervical length in women at high risk of preterm delivery appears to reduce cerclage rates without compromising pregnancy outcome.</li> </ul>	2
28. To MS, Palaniappan V, Skentou C, Gibb D, Nicolaides KH. Elective cerclage vs. ultrasound-indicated cerclage in high-risk pregnancies. <i>Ultrasound Obstet Gynecol</i> 2002; 19(5):475-477.	9	90 patients total 47 patients managed with US surveillance and 43 treated with elective cerclage	Retrospective study to compare pregnancy outcome after elective vs US indicated cervical cerclage in women at high risk of pre-term birth.	<ul style="list-style-type: none"> <li>• In the expectantly managed group, 59.6% (28/47) required a cervical cerclage.</li> <li>• Miscarriage or spontaneous delivery before 34 weeks' gestation occurred in 14.6% (6/41) of the elective cerclage group, compared with 20.9% (9/43) in the expectantly managed group (<math>\chi^2=0.219</math>, <math>p=0.640</math>)</li> <li>• Conclusion: In women at increased risk of spontaneous mid-trimester or early preterm delivery, a policy of sonographic surveillance followed by cervical cerclage in those with a short cervix reduces the need for surgical intervention without significantly increasing adverse pregnancy outcome.</li> </ul>	2

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29. Hertzberg BS, Kliewer MA, Farrell TA, DeLong DM. Spontaneously changing gravid cervix: clinical implications and prognostic features. <i>Radiology</i> 1995; 196(3):721-724.	13	27 pregnant patients	Prospective study to define the sonographic characteristics of an abnormal cervix that spontaneously changes in length and configuration, and to assess the clinical importance of such changes.	<ul style="list-style-type: none"> <li>• 20/27 patients delivered preterm (74%), although only 6 delivered within one week of the US exam.</li> <li>• Wider funneling of the internal os and a shorter segment of intact cervix caudal to the funneling each correlated with increased risk for preterm delivery.</li> <li>• Most patients with a spontaneously changing cervix deliver preterm. Measurements obtained when the cervix appears most abnormal are most predictive of early delivery.</li> </ul>	3
30. Parulekar SG, Kiwi R. Dynamic incompetent cervix uteri. Sonographic observations. <i>J Ultrasound Med</i> 1988; 7(9):481-485.	13	56	A retrospective review was done to evaluate the significance of rapid changes in the degree of dilatation of the cervical canal that was observed during the sonographic examination (the bladder was similarly distended in each case).	<ul style="list-style-type: none"> <li>• Of 56 patients with incompetent cervix, dynamic cervical changes were observed in 15 patients (27%).</li> <li>• The interval between sonography and delivery in the 15 patients with dynamic cervical changes ranged from 2 to 17 weeks.</li> <li>• Incompetent cervix can go undetected if the cervix is not observed frequently throughout the sonographic examination.</li> </ul>	3
31. Riley L, Frigoletto FD, Jr., Benacerraf BR. The implications of sonographically identified cervical changes in patients not necessarily at risk for preterm birth. <i>J Ultrasound Med</i> 1992; 11(3):75-79.	13	31	<ol style="list-style-type: none"> <li>1. To correlate subsequent digital cervical exam and prenatal course with the initial sonographic appearance of the cervix.</li> <li>2. To determine the potential implications of a short cervix as an incidental finding regardless of whether the patient is in a clinical high-risk category.</li> </ol>	<ul style="list-style-type: none"> <li>• Digital examination on the same day as the US exam revealed a normal cervix in 17 of 31 patients (55%).</li> <li>• 19/31 asymptomatic patients (61%) had pregnancies complicated by preterm labor, clinical evidence of incompetent cervix, or preterm birth.</li> <li>• 8/9 patients (89%) who had a cervical length of <math>\geq 2.5</math> cm delivered at term; 15 of 22 patients (68%) who had a cervical length of <math>\leq 2.4</math> cm delivered prematurely.</li> <li>• When sonography incidentally detects a short cervix, close clinical attention is warranted.</li> </ul>	3

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32. Jenkins SM, Kurtzman JT, Osann K. Dynamic cervical change: is real-time sonographic cervical shortening predictive of preterm delivery in patients with symptoms of preterm labor? <i>Ultrasound Obstet Gynecol</i> 2006; 27(4):373-376.	10	76	Prospective study of patients at 23-34 wks to determine if dynamic cervical change (spontaneous real-time cervical shortening) is predictive of preterm delivery at < 37 weeks' gestation in patients with symptoms of preterm labor.	Dynamic cervical change occurs frequently in association with shortened cervical length. In patients with longer initial cervical lengths, dynamic change may increase the risk for preterm delivery. When dynamic change is noted in a patient with preterm labor symptoms, use of the minimum cervical length observed may be better compared with initial cervical length for determining preterm delivery risk.	2
33. Gibson JL, Macara LM, Owen P, Young D, Macauley J, Mackenzie F. Prediction of preterm delivery in twin pregnancy: a prospective, observational study of cervical length and fetal fibronectin testing. <i>Ultrasound Obstet Gynecol</i> 2004; 23(6):561-566.	10	91 twin pregnancies	Prospective study to evaluate cervical length measurements and fetal fibronectin detection as predictors of spontaneous preterm delivery in an unselected population of twin pregnancies	Cervical length $\leq 25$ mm at 18 weeks (LR+ 9.7, sensitivity 14.3%) and $\leq 22$ mm at 24 weeks (LR+ 9.6, sensitivity 28.6%) were the best predictors of preterm delivery. A shortening of cervical length $\geq 2.5$ mm per week between 18 and 28 weeks' gestation also predicted preterm delivery (LR+ 10.8, sensitivity 16.7%). Confirms the value of transvaginal US assessment of cervical length as a predictor of preterm delivery in twin pregnancies. However, the poor sensitivity of this test makes it unsuitable as a single predictor of preterm delivery.	2

## Evidence Table Key

### Study Type Key

*Numbers 1-7 are for studies of therapies while numbers 8-15 are used to describe studies of diagnostics.*

1. Randomized Controlled Trial — Treatment
2. Controlled Trial
3. Observation Study
  - a. Cohort
  - b. Cross-sectional
  - c. Case-control
4. Clinical Series
5. Case reviews
6. Anecdotes
7. Reviews
  
8. Randomized Controlled Trial — Diagnostic
9. Comparative Assessment
10. Clinical Assessment
11. Quantitative Review
12. Qualitative Review
13. Descriptive Study
14. Case Report
15. Other (Described in text)

### Strength of Evidence Key

- Category 1 - The conclusions of the study are valid and strongly supported by study design, analysis and results.
- Category 2 - The conclusions of the study are likely valid, but study design does not permit certainty.
- Category 3 - The conclusions of the study may be valid but the evidence supporting the conclusions is inconclusive or equivocal.
- Category 4 - The conclusions of the study may not be valid because the evidence may not be reliable given the study design or analysis.