Pessary in pregnancy
The pessary is a conical ring of silicone that is introduced inside the vagina until it encircles the entire cervix, closing the cervical canal and preventing its dilatation or shortening.

- It promotes a change in the cervical angle, reducing the direct pressure of the uterine contents in the canal, and may be a safer alternative to surgical cerclage because it is easily removable and does not require anesthesia. This device can be used from the diagnosis of a short cervix, usually around between 18 and 22 weeks of gestation, and is withdrawn by the obstetrician at between 36 and 37 weeks of gestation,
Most are made of silicone, which is nonallergenic, durable, autoclavable, and does not retain odors. A few are made of other materials, such as latex or polycarbonate. Patients should be asked about latex allergies prior to being fit with a latex pessary.
Pessaries can be classified into essentially two categories: support and space-filling. The support pessary is used to treat all stages of POP and SUI whereas the space-filling pessary is mostly used for severe POP (stage III to IV).
Commonly used vaginal pessaries

(A) Smith; (B) Hodge; (C) Hodge with support; (D) Gehrung; (E) Risser; (F) Ring with diaphragm; (G) Ring; (H) Cube; (I) Shaatz; (J) Rigid Gellhorn; (K) Flexible Gellhorn; (L) Incontinence ring; (M) Inflatoball; (N) Donut.

Courtesy of Milex Products, Inc., Chicago, IL.
## Comparison of Pessary Types for Urinary Incontinence and Pelvic Organ Prolapse

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<td>Prolapse pessaries: Support</td>
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<td>Hodge</td>
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<td>Support</td>
<td>- Can be used for prolapse and incontinence</td>
<td>- Challenging for patient to insert</td>
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The use of a cervical pessary in conjunction with intravaginal progesterone is shown to be a safe and feasible method for the prevention of preterm birth in women with a short midtrimester cervix. Moreover, this combined treatment has led to a pregnancy prolongation of ∼ 13.5 weeks, according to recent studies.12
The review included only one well-designed randomised clinical trial that showed beneficial effect of cervical pessary in reducing preterm birth in women with a short cervix.
To date, data obtained from one well-designed randomised clinical trial suggest that inserting a cervical pessary is superior to expectant management in the prevention of preterm birth in 385 women between 18 and 22 weeks of pregnancy. Neonatal paediatric care admission was reduced in the pessary group in comparison to the expectant group. These women had a singleton pregnancy and high risk of preterm birth because of the short length of the neck of the womb (cervix).
The use of cervical pessary (192 women) was associated with a statistically significantly decrease in the incidence of spontaneous preterm birth less than 37 weeks' gestation compared with expectant management (22% versus 59%; respectively, risk ratio (RR) 0.36, 95% confidence interval (CI) 0.27 to 0.49)
Most of the studies have used the Arabin pessary which is a flexible, ring-like silicone pessary available in different sizes with the outer diameter varying between 65 mm and 70 mm, the inner diameter between 32 mm and 35 mm, and the height of the curvature between 21 mm and 25 mm.
It has been designed to be inserted with its curvature upwards so that the larger diameter is supported by the pelvic floor. The smaller inner diameter is supposed to encompass the cervix (Arabin 2003) Figure 1.
The mechanism by which pessaries can help women with an incompetent cervix is not known. In 1961, Vitsky suggested that the incompetent cervix is aligned centrally, with no support except the non-resistant vagina (Vitsky 1961). A lever pessary, however, would change the inclination of the cervical canal, directing it more posteriorly.
The Arabin Pessary is gaining popularity in the UK. Doctors in the Netherlands and Spain have considerable experience with using it to reduce the chance of premature delivery. It is a soft silicon ring that is inserted into the vagina by your obstetrician and moved into place so that the cervix sits inside it (see pic). Research is being carried out currently by Tommy’s to see how effective this pessary is at preventing preterm birth in the UK, and as yet is not used in all hospitals.
Another postulated mechanism is that the pessary might support the immunological barrier between the chorioamnion-extraovular space and the vaginal microbiological flora as cerclage has been postulated to do (Goya 2012).
Oster et al conducted a non-randomised trial in the USA in 1966 that involved 35 pregnant women. They used Hodge pessaries and reported 83% living children.
More recently, Quaas et al (Quaas 1990) reported on 107 patients using an Arabin-cerclage pessary. The pessary was used instead of surgical cerclage prophylactically in 58 patients, in 44 cases therapeutically, and in five patients it was used instead of emergency cerclage.

- In 92% of the patients, the pregnancy was maintained until 36 weeks of gestation, when the Arabin-cerclage pessary was removed. There were no infectious complications reported.
We assessed three randomised trials for inclusion in the current review (Gmoser 1991; Goya 2012; Von Forster 1986). Two studies were excluded. Gmoser 1991 found that cervical pessary was as effective as cerclage in the management of cervical incompetence. Pessary treatment was better at prolonging pregnancy and increasing the weight of the baby at birth, compared with no intervention (Gmoser 1991). In the second study (Von Forster 1986) both methods succeeded in prolonging pregnancy at least until 37 weeks in approximately 80% of cases (Von Forster 1986).
Few complications have been reported from pessary use during pregnancy. Increased vaginal discharge was complained by all pessary users in Goya 2012. Two studies have looked at changes in vaginal flora during pregnancy with pessary use. One study (Havlik 1986) compared the change in vaginal flora of 50 women wearing Mayer pessaries with 50 controls.
They found that after two weeks, there were no differences in the change of flora between users and non-users. Another study (Jorde 1983) also reported that 5.5% of women (in a cohort of 200) using pessaries had pathogenic organisms in the vagina during pregnancy, compared with 2% of controls. About half of the pessary users complained of increased vaginal discharge after the use of a cervical pessary (Arabin 2003). So, this could reflect foreign body irritation rather than infection.
Cervical Pessary for Preventing Preterm Birth in Singleton Pregnancies With Short Cervical Length: A Systematic Review and Meta-analysis.

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CONCLUSIONS In singleton pregnancies with a TVU CL ≤25mm at 200 - 246 weeks, the Arabin pessary does not reduce the rate of spontaneous preterm delivery or improve perinatal outcome. Individual patient data meta-analysis may clarify whether cervical pessary may be beneficial in subgroups, such as only singleton gestations without prior SPTB or by different CL cutoffs.
Cervical pessary to prevent preterm birth in asymptomatic high-risk women: a systematic review and meta-analysis.

AU Conde-Agudelo A, Romero R, Nicolaides KH


BACKGROUND Randomized controlled trials that have as
RESULTSTwelve studies (4687 women and 7167 fetuses/infants) met the inclusion criteria: 8 evaluated pessary vs no pessary in women with a short cervix, 2 assessed pessary vs no pessary in unselected multiple gestations, and 2 compared pessary vs vaginal progesterone in women with a short cervix. There were no significant differences between the pessary and no pessary groups in the risk of spontaneous preterm birth<34 weeks of gestation among singleton gestations with a cervical length≤25 mm (relative risk, 0.80; 95% confidence interval, 0.43-1.49; 6 trials, 1982 women; low-quality evidence), unselect
unselected twin gestations (Overall, no significant differences were observed between the pessary and no pessary groups in preterm birth $<37, <32$, and $<28$ weeks of gestation, and most adverse pregnancy, maternal, and perinatal outcomes (low- to moderate-quality evidence for most outcomes). There were no significant differences in the risk of spontaneous preterm birth $<34$ weeks of gestation between pessary and vaginal progesterone in singleton gestations with a cervical length $\leq 25$ mm (relative risk, 0.99; 95% confidence interval, 0.54-1.83; 1 trial, 246 women; low-quality evidence) and twin gestations with a cervical length $<38$ mm (relative risk, 0.73; 95% confidence interval, 0.46-1.18; 1 trial, 297 women; very low-quality evidence). Vaginal discharge was significantly more frequent in the pessary group than in the no pessary and vaginal progesterone groups (r
In women with a twin pregnancy and a prior singleton sPTB or a short cervix, the use of supplemental progesterone or a pessary is controversial.
Adjunctive pessary therapy allows delaying delivery in women treated with ECC due to cervical insufficiency with protruding fetal membranes. It also seems to improve neonatal outcome, although the differences are not statistically significant.
Our study is limited by its retrospective nature, lack of randomization, a small sample size, and selected study group, but this is the first report that evaluates the impact of adjunctive pessary therapy on perinatal outcomes in women with ECC.