

# DIAGNOSIS AND MANAGEMENT OF CERVICAL INSUFFICIENCY

## DEFINITION AND INTRODUCTION

Cervical insufficiency is defined as the inability of the uterine cervix to retain a pregnancy in the second trimester, in the absence of uterine contractions.<sup>(1)</sup>

A history of cervical insufficiency has been applied to women with one or more second trimester pregnancy losses/preterm births (before 34 weeks) who fulfil this definition. It must be noted that a short cervical length on transvaginal scan in the second trimester is a risk factor for preterm birth but is not sufficient to diagnose cervical insufficiency.

Prematurity is the leading cause of perinatal death and disability. Evidence suggests that the incidence of preterm labour and birth is continuing to rise worldwide. Currently 6% of babies in New Zealand are born preterm. Despite efforts and interventions aimed at reducing the incidence globally the results have been largely disappointing.<sup>(2)</sup>

It can be difficult to distinguish between women who have a short cervix and those that have true cervical insufficiency. Structural cervical weakness is the likely cause of many recurrent second trimester miscarriages but may only account for a minor proportion of all second-trimester losses/births. The majority of these cases are probably caused by other disorders, such as decidual inflammation/infection, placental bleeding, or uterine overdistension. These other disorders can initiate biochemical changes within the cervix that lead to premature shortening and often a single (i.e. nonrecurrent) second trimester loss/birth.

## RISK FACTORS

Refer to the Obstetric clinic is guided by Section 88 Referral Guideline.

### CERVICAL RISK FACTORS: (SEE APPENDIX A)

- **Collagen abnormalities** — genetic disorders affecting collagen (eg. Ehlers Danlos syndrome) have been associated with an increased risk of preterm birth<sup>(4)</sup>
- **Uterine anomalies** — increase the risk of second trimester preterm birth, eg. Septate uterus, bicornuate uterus and even arcuate uterus<sup>(5)</sup>.
- **Biologic variation** — although a short cervix is predictive of preterm birth, it is not diagnostic of cervical insufficiency and many women who have a congenitally short cervix deliver at term<sup>(6)</sup>

## PAST OBSTETRIC HISTORY: (SEE APPENDIX B)

- Recurrent mid-trimester pregnancy losses
- Previous preterm pre-labour rupture of membranes at less than 32 weeks
- Prior pregnancy with a cervical length measurement of less than 25 mm prior to 27 weeks of gestation<sup>(3)</sup>

## ACQUIRED FACTORS (MORE COMMON)

- **Cervical trauma** — which can also result from labour and delivery (eg. spontaneous, forceps or vacuum, caesarean section) may weaken the cervix, and contribute to cervical insufficiency.
- **Mechanical dilation** — eg. dilation and curettage [D&C], dilation and evacuation [D&E], pregnancy termination, hysteroscopy.<sup>(7, 8)</sup> In women with a short cervical length and no prior preterm birth, prior cervical mechanical dilatation is one of the most common associated risk factors.

- **Treatment of cervical intraepithelial neoplasia:**

A cone biopsy has been shown to be a risk factor for preterm delivery. In addition, a LLETZ (Loop excision procedure), particularly repeat ones have also been shown to increase the risk. The evidence for a single isolated LLETZ increasing risk of cervical insufficiency is more tenuous and relates to the size of the excised tissue.

## CINICAL FINDINGS

- Women may have no symptoms or can present with mild symptoms, eg. painless vaginal spotting, increased vaginal discharge, premenstrual-like cramping or backache or pelvic pressure
- Women may present with these symptoms from as early as 14 to 20 weeks of gestation.
- On physical examination, the cervix may be soft and closed with minimal effacement (occurs early in the course of cervical insufficiency)
- Transcervical ultrasound cervical length is typically short (less than or equal to 25mm) and debris may be seen in the amniotic fluid. If serial ultrasound examinations have been performed, a decrease in cervical length overtime will be noted.

## DIAGNOSIS

This is based on either a classic past obstetric history alone or on a combination with transvaginal ultrasound (TVU) measurement of cervical length. Diagnosing those women with advanced cervical dilatation and/or effacement by physical examination alone is sufficient.<sup>10</sup>

### Important note:

**The diagnosis of cervical insufficiency is usually limited to singleton gestations because the pathogenesis of delivery at 14 to 28 weeks in multiple gestations is usually unrelated to a weakened cervix.**

## MANAGEMENT

The management of these women can be divided into two main groups:

- (1) Women for whom a conservative path will be pursued
- (2) Women where it is clear that surgical intervention in the form of a cerclage is indicated.  
This may be either prophylactic or therapeutic.

## APPROACH TO MANAGEMENT

See pathways below.

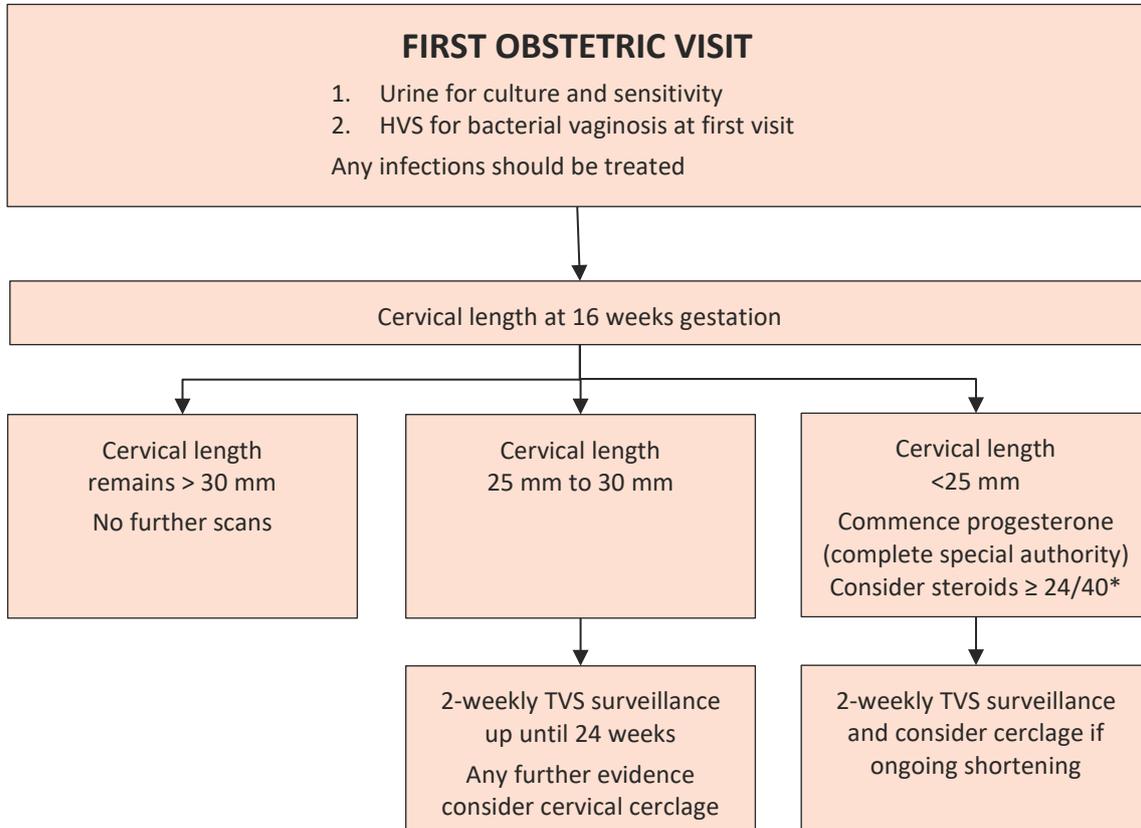
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**APPENDIX A CONSERVATIVE MANAGEMENT**

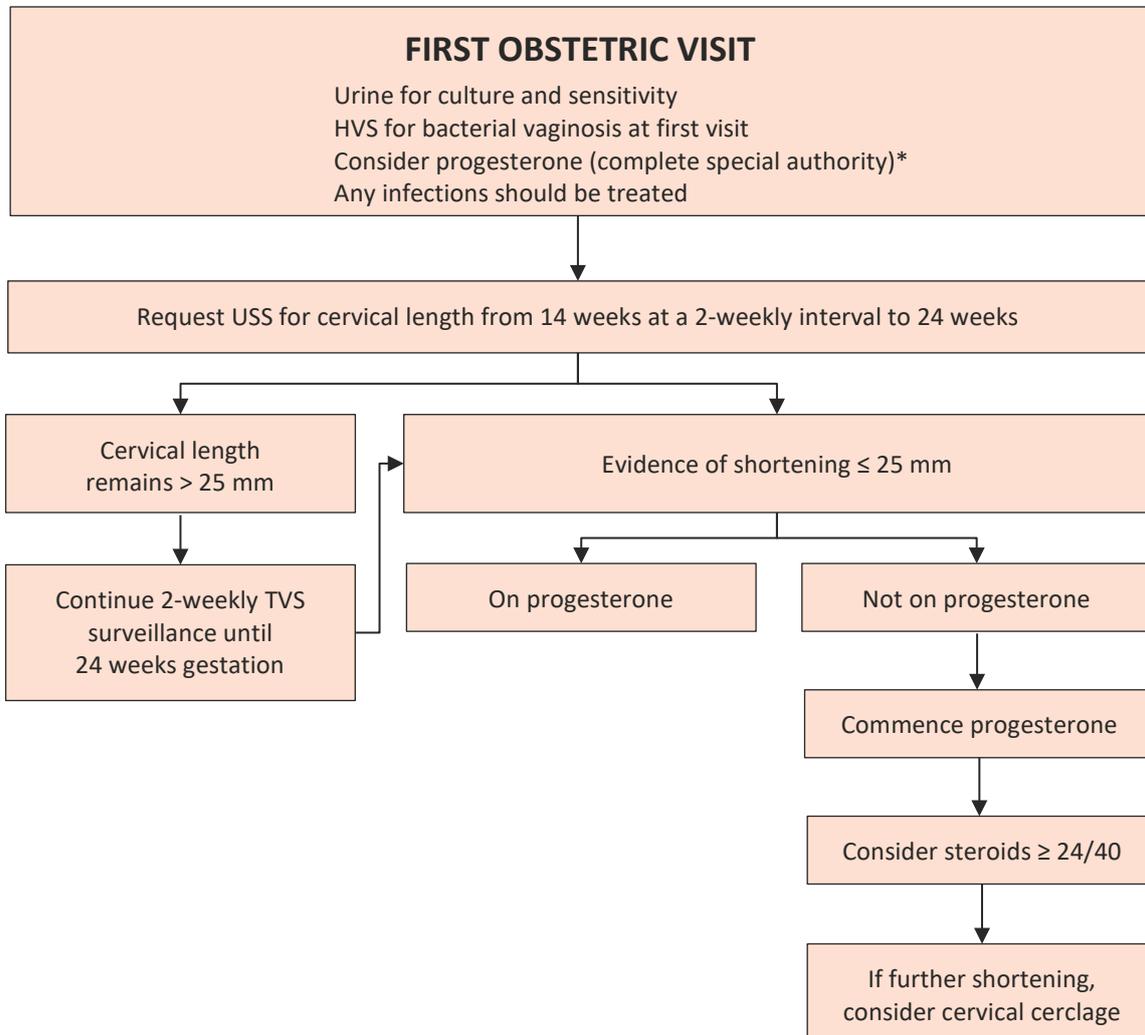
Women with cervical risk factors for cervical insufficiency but no history of previous loss.



\*Discuss with NICU

**APPENDIX B CONSERVATIVE MANAGEMENT**

Those women with a previous 2<sup>nd</sup> trimester loss or a previous preterm delivery before 34 weeks

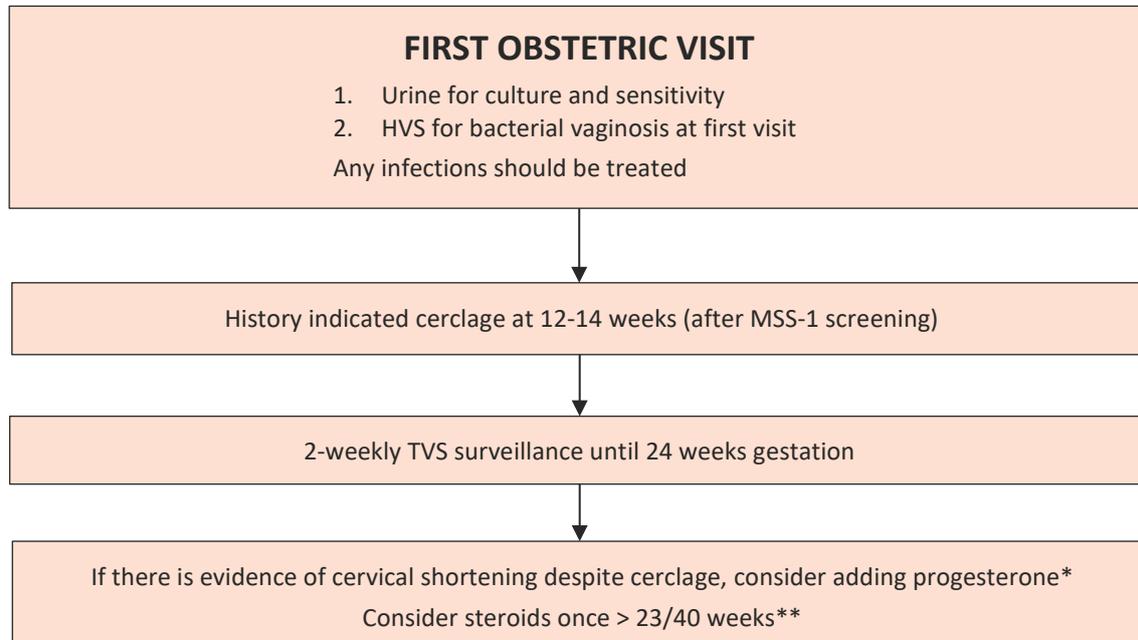


\*Discuss with NICU

**APPENDIX C SURGICAL MANAGEMENT**

Suspected history of cervical insufficiency is:

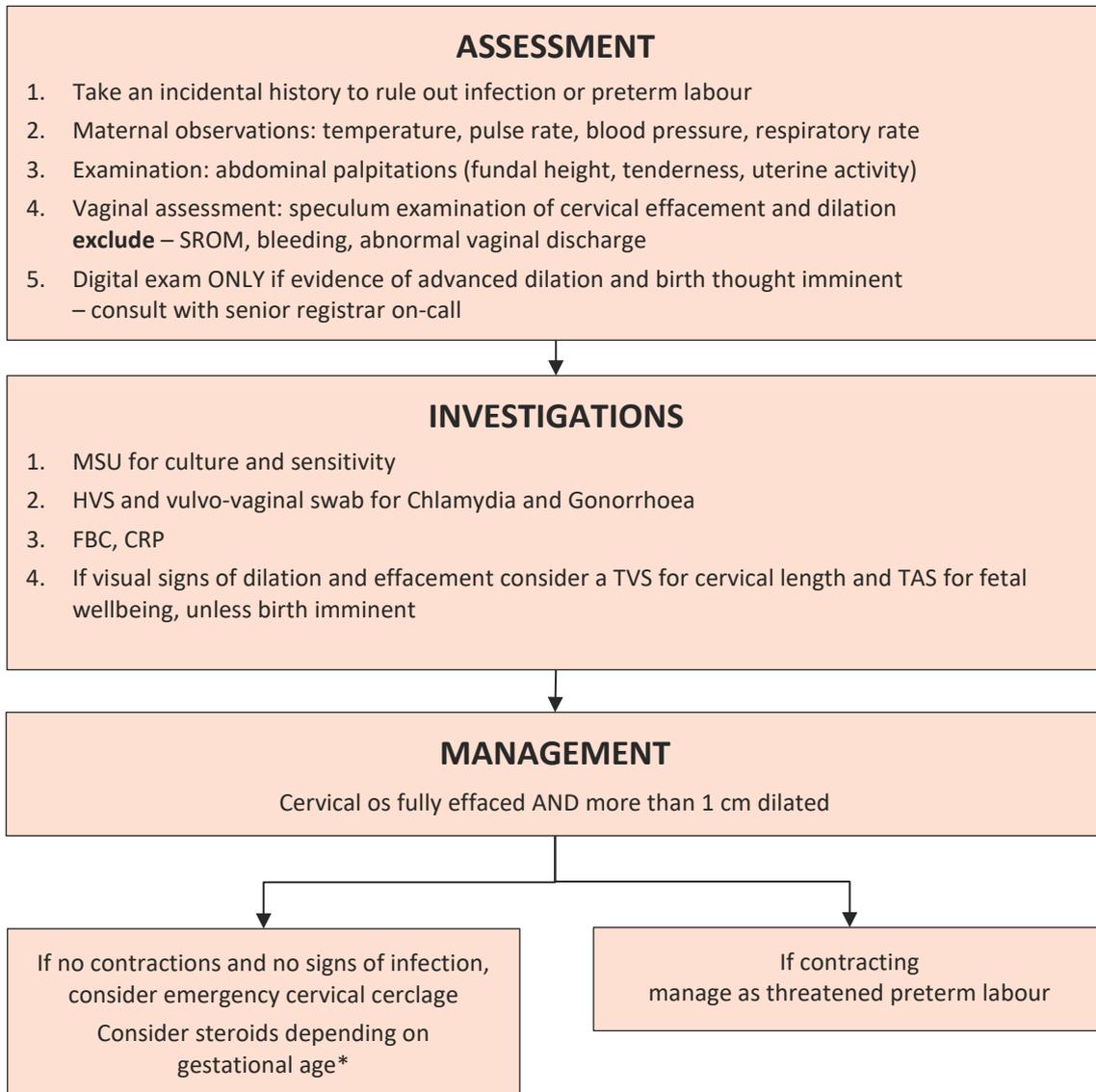
Three or more preterm births < 34 weeks (with progressively earlier deliveries in successive pregnancies) and/or second trimester losses



\*\*No trials have evaluated the efficiency of combination therapy

\*Discuss with NICU

**APPENDIX D ACUTE PRESENTATION WITH SUSPECTED CERVICAL INSUFFICIENCY**



\*Discuss with NICU