In South Africa, abortion is legal for several indications up to 20 weeks gestation, and approximately 25% of all abortions take place in the second trimester. Most public sector second trimester procedures are performed by medical induction with misoprostol alone, although in the Western Cape Province, a team of roving doctors provides surgical abortion, or dilation and evacuation (D&E). The cervix is prepared before the D&E using sublingual misoprostol, and laminaria tents are not generally used. Recent research documented that D&E is being performed safely in this setting, and no major complications were observed in a series of 203 procedures. However, 43% of all women undergoing D&E expelled the fetus prior to the procedure, and this was often an unexpected and traumatic experience for women.

The goal of this study was to improve cervical preparation prior to D&E by performing a randomized controlled trial comparing a modified protocol using buccal misoprostol to one using laminaria. 159 women seeking abortion between 13 and 20 weeks gestation were randomized to one of two methods of preparing the cervix before the D&E, and 156 women received their assigned treatment (78 in each group). Complications were rare and similar in the two groups. Women who received misoprostol were more likely to need additional dilation of the cervix by the physician compared to women who received laminaria. Side effects were similar in both groups, except more women in the misoprostol group had diarrhea. Procedure time and satisfaction were similar in both groups. The study shows that both misoprostol and laminaria can be safely used in this setting, although misoprostol requires more additional dilation and has more side effects.