

Ultrasound Induced Cervical Ripening

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Technology description

Delayed cervical ripening may seriously jeopardize the health of the baby and/or mother and could lead to still birth. Current methods for softening the cervix (cervical ripening), primarily involve the use of drugs such as prostaglandins and oxytocin which may have undesirable side effects.

Ultrasound energy is widely used in medical applications (diagnostic imaging, therapeutic heating and noninvasive surgery), and has an excellent safety record. Moreover, ultrasound imaging is routinely used in obstetrics to visualize the cervix of pregnant women.

Professor Bruce Towe of Arizona State University and collaborators at Dignity Health have developed a novel method for accelerating the softening of the cervix prior to labor by application of ultrasound energy. Using a compact portable device and either an intravaginal probe or an external trans-abdominal wand, pulsed ultrasound energy can be directed to the cervix to promote softening. This method, using unique ultrasound pulse characteristics, enables a noninvasive means for safe and effective cervical ripening and has the potential to replace the use of drugs such as prostaglandins and oxytocin.

Application area

Cervical ripening

Advantages

Safe - the power levels are within safe limits, comparable to those used in imaging applications

Does not require the use of drugs, which can have undesirable side effects

Noninvasive

Commercial ultrasound machines can be easily modified to emit the unique pulse characteristics used in this method

Institution

[Arizona State University](#)

Inventors

[Robert Garfield](#)

Director of Research
OB/GYN - St. Josephs

[Shao-Qing Shi](#)

Research Associate
OB/GYN - St. Joseph's

[Bruce Towe](#)

Professor -FY18
Fulton - SBHSE -FY18

联系我们



叶先生

电话 : 021-65679356

手机 : 13414935137

邮箱 : yeyingsheng@zf-ym.com