Disposable, pass through cervical dilator : a new approach for cervical dilatation

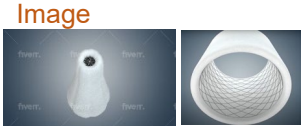
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Abstract

Statement of the Problem: The cervical dilators available in the industry are essentially metallic or plastic and have encountered several limitations. They require (re) sterilization, they come in increasing sizes and require multiple instrumentation to achieve a desired opening: therefore, increased risk for trauma, increased operation time and anesthesia. The force exerted by present dilators can cause trauma to cervical canal and even perforate uterus. Other dilators require expensive and complex methodology (e.g. balloon dilators) or need a long time to achieve a dilated state(osmotic dilators, laminaria).

The purpose of this study is to describe a cervical dilator which can prevent and reduce mechanical traumatic risk to the cervical canal and or uterus by the use of a soft, expandable outer material, allowing at the same time passage of surgical instruments (e.g. hysteroscope). This dilator can be self-expanding and able to overcome the compressive forces to result in dilatation of the canal. The dilator may include an inner metallic core made up of a plurality of wires that are held in a compressed position by a string and expand into a dilated pass-through channel by pulling out the string. Methodology: Inserting the dilator into the canal; expanding the dilator to provide for dilatation of the canal and a channel formed within the tubular member of the dilator. Findings: the string may be the center piece of the dilator or off-center and when triggered can dilate and open the cervical canal. The string can also be used to measure the uterine cavity. The dilator provides for an unobstructed pass-through channel to allow passage of hysteroscope and other medical devices. Conclusion: The dilator allows for atraumatic opening of the cervical canal, ease of use (no extraordinary skilled training), and may provide a disposable dilator and pass-through of medical instruments.

Image



Recent Publications

1. Alexandra Schmidt “Radially expanding uterine cervical dilator”. Biomedical Engineering Department at the University of Wisconsin
2. Vorvick, Linda J. "Uterus." MedlinePlus. U.S. National Library of Medicine, 14 Aug. 2012. Web. 10 Oct. 2012.
3. Behera, Millie A., MD. "Uterus Anatomy." Medscape. N.p., 14 July 2011. Web. 10 Oct. 2012.
4. "Uterine Cervix". Encyclopædia Britannica. Encyclopædia Britannica Online
5. R G Wheeler, K Schneider Properties and safety of cervical dilators. Am J Obstet Gynecol1983 Jul15;146(6):597-601.

Biography

Dr. Roxana Belciu Kerns has her expertise and passion in improving medical devices presently available. With a longstanding career as a clinician, surgeon, anesthesiologist, aesthetic physician, Dr. Roxana B. Kerns combines a true visionary gift with a down-to-earth applicability in generating a new front of medical devices that respect humanity and cut costs.

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