Clinical Review: Embryo Transfer Techniques—Cervical Flushing

Advents in assisted reproductive technology have resulted in a marked rise in pregnancy rates over the past several years. Perhaps one of the most critical clinical events in achieving a successful cycle is the embryo transfer. The skill and technique of the operator clearly influence the outcome in this deceptively simple yet decisive procedure.

One of the challenges in delivering the embryos safely into the uterus is avoiding embryo damage or entrapment within the cervical mucus. Frequently, a large amount of tenacious cervical mucus must be traversed with the transfer catheter. Often this mucus adheres to the tip and sides of the delivery catheter. Upon release of the embryos, this adherent mucus may result in partial obstruction of the catheter, greatly narrowing the effective lumen of the catheter, resulting in trauma to the embryos. Embryos may also become trapped in this mucus and then be withdrawn with the catheter. We have noted that cervical flushing has decreased this retrograde medium phenomenon and feel it may be due to less mucus being on the catheter tip. We have also observed that when fluid from the delivery catheter is observed to move retrograde following withdrawal of this catheter, pregnancy rates decrease.

Recently, vigorous flushing of the cervical canal prior to embryo transfer has been reported to increase the success rate of ART (McNamee, 1999). Sallam et al. also report a tendency toward increased rates with the use of cervical flushing. The catheters used for this purpose all direct the irrigation toward the internal os and rely on the closure of the os to deflect this irrigation back out of the cervix. Occasionally this technique results in the flush being directed into the uterine cavity. To avoid this potential problem, this catheter is designed with a blunt, atraumatic, closed end. The wash is directed through a small aperture on the side of the catheter, angled away from the internal os. This small, angled aperture allows a very effective stream of irrigant to clear the cervix of mucus without risk of introducing this fluid into the uterine cavity.

The use of this catheter to clear the cervix of its mucus load prior to transfer may lead to a less traumatic and more efficient placement of embryos in the uterine cavity. Following is the technique that we find useful in our practice.

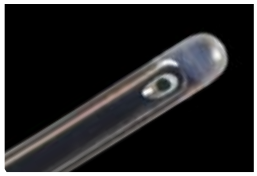
Cervical Flushing Method

1. Use a swab to clean away excess cervical mucus.
2. Attach a 10 mL syringe filled with transfer medium to the Cervical Flushing Catheter and advance the catheter tip to the internal cervical ostium.
3. Inject approximately 2 to 3 mL while slowly withdrawing and rotating the catheter from the cervix.
4. Advance the catheter to the end of the cervical ostium, not into the uterus, and inject 2 to 3 mL of medium while rotating the catheter.
5. Wait 20 to 30 seconds for the fluid and mucus to exit the cervix, and if mucus is still noted within the medium, repeat the previous procedure.
6. When this technique is performed properly, very little to no medium will enter into the uterus.

References

McNamee PI. Embryo transfer techniques: is cervical mucus more important than we thought? In: *11th World Congress on In Vitro Fertilization and Human Reproductive Genetics*. Bologna, Italy: Monduzzi; 1999:38-48.

Sallam HN, Farrag F, Ezzeldin A, et al. The importance of flushing the cervical canal with culture medium prior to embryo transfer. *Fertil Steril*. 2000;74(suppl 1):64-65.



FLUSHING CATHETERS

Used for installation of liquid or medium. Sideport design allows directional control of flushing medium. An adjustable silicone positioner can be preset for appropriate depth. Supplied sterile in peel-open packages. Intended for one-time use. **NOTE: Not intended for in vitro fertilization, gamete intrafallopian transfer or any intrafallopian tube procedures.**

Global Product Number	Order Number	French Size	Length cm
G18952	J-IUIC-351300-CE	3.5	13
G18953	J-IUIC-352000-CE	3.5	20