

Fitting a diaphragm or cervical cap

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Some women prefer to use a diaphragm or cervical cap for contraception. These devices need to be fitted correctly, and the women informed about how to insert and to maintain them.

With the advent of more effective methods of contraception in the 1960s, many thought it would signal the end of traditional methods of contraception like the diaphragm or cap. In fact, in the past few years there has been a resurgence of interest in this method, which was first developed by a German physician called Hasse in the 1880s.

Diaphragms are simply rubber barriers on a spring rim. Cervical caps are similar but are held in place by suction. The increase in interest has occurred not only because the method remains an option for women who experience side effects with other methods of contraception, but also as a conscious choice for those women seeking more 'natural' methods of contraception.

Fitting a diaphragm

After thoroughly counselling the patient as to the pros and cons of the method, the next step is to perform a thorough pelvic examination to ascertain which type of diaphragm will be the most suitable to fit.

Choosing the type of diaphragm

Diaphragms come in two main varieties:

- coil or flat springs, which compress into a flat plane when the rim is squeezed across the middle
- all-flex or arching spring diaphragms,

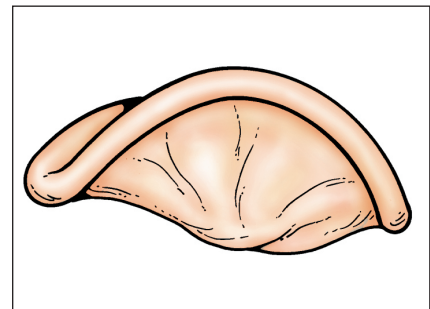
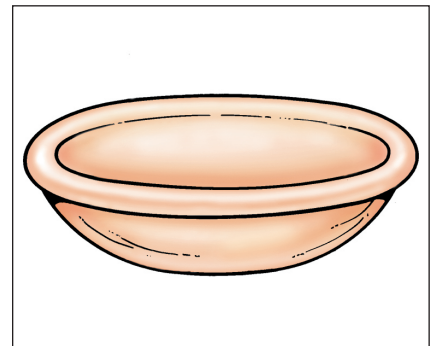
which have a spring within a spring, meaning that they form into a curved shape when compressed across the middle (Figures 1a and b).

The all-flex or arching spring diaphragms are more suitable for those with a retroverted uterus, or where the cervix is very laterally placed, making it more difficult to cover with a flat or coil spring device. These all-flex diaphragms also have a firmer spring, making them particularly useful in the postpartum period or in women with reduced vaginal muscle tone.

Estimating the length of the vagina

When fitting a diaphragm, it is important to estimate the length of the vagina on vaginal examination so that the correct size is chosen. The diaphragm is designed to fit between the posterior fornix behind the cervix and the pubic bone at the front. Diaphragms are sized in increments of 5 mm, ranging from 55 to 95 mm. With practice, it is possible to simply estimate the size required, but for the 'beginner' the length should be estimated by performing the usual pelvic examination, placing the examining fingers into the posterior fornix and measuring the vaginal length with the fingers (Figure 2).

In practice, most women require diaphragms sized between 65 and 80 mm. Women of smaller stature may require smaller sizes, and multiparous women generally require larger sizes. Because



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Figures 1a and b. The all-flex or arching spring diaphragm. a (top). The open diaphragm. b (above). Folded for insertion.

the all-flex diaphragm has a slightly thicker spring, the size fitted is generally one size lower than one would choose for a flat or coil spring device.

Checking the diaphragm size

The estimated size is then checked with fitting rings. These replicate the size of the diaphragm spring and can be safely autoclaved. Fitting rings are available from the manufacturer Janssen-Cilag at \$65.00 a set.

The labia are parted gently, and the lubricated fitting ring is compressed across the centre and inserted into the vagina along the posterior vaginal wall. Resistance is felt as the ring makes contact with the posterior fornix, and at this point the front of the device should then be positioned behind the pubic bone. The fit should be snug but not too tight because a tight-fitting diaphragm will predispose the patient to urinary tract infection.

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If the diaphragm is too large, it will not fit comfortably behind the pubic bone, and will not remain in its correct position during intercourse (Figure 3a). If it is too small, the device will tend to sit in front of the cervix, offering no contraceptive protection (Figure 3b).

Instructing the patient

The fitting ring is removed, and the patient is given instructions as to the

correct insertion and placement of her own prescribed diaphragm before she leaves the surgery. It is especially important for her to understand that she must check, every time she inserts the device, that the cervix is correctly covered by the diaphragm, and that the front rim is correctly tucked up behind the pubic bone, so that the diaphragm remains in the correct position during intercourse (Figure 4). She should also be instructed

in the removal of the device, which is done by hooking a finger over the front rim and applying gentle traction. It is also important that the woman knows how to take care of the diaphragm after use. See the box on page 108 for points to discuss with the patient.

Fitting a cervical cap

Cervical caps are similar to diaphragms but are held in place by suction rather

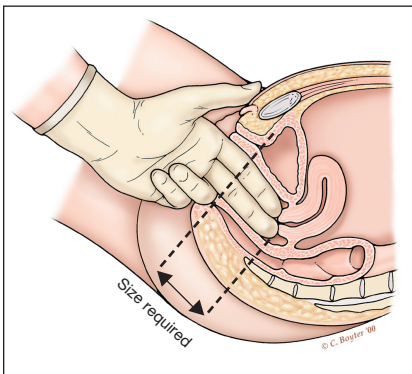
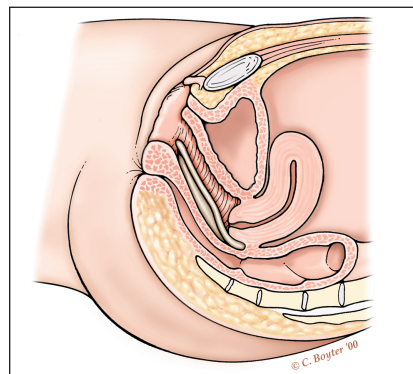


Figure 2. Estimating the size of the diaphragm by measuring the vaginal length with the fingers.



Figures 3a and b. Incorrectly fitted diaphragms. a (middle). The diaphragm is too large. b (right). The diaphragm is too small.

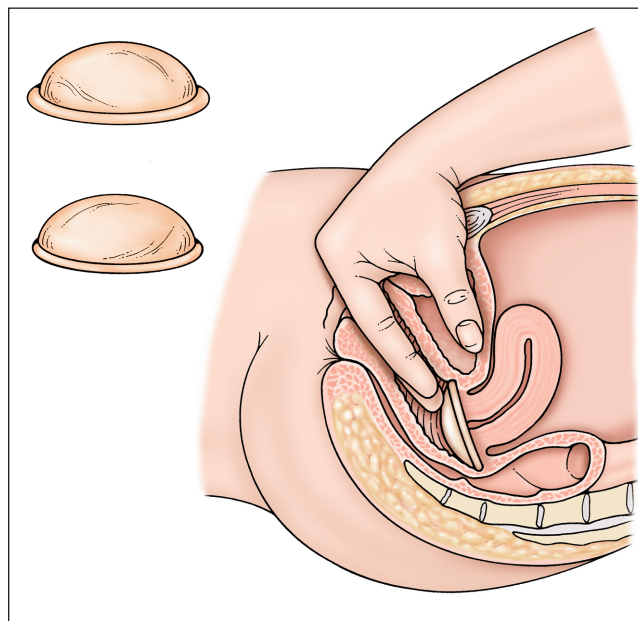
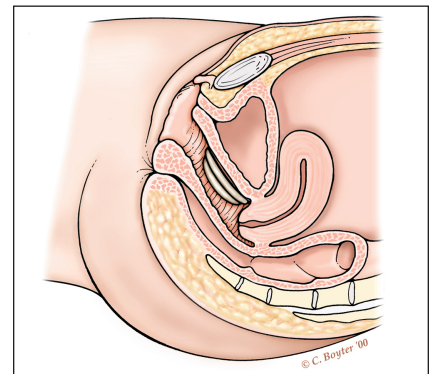


Figure 4. The all-flex diaphragm (top), the flat spring diaphragm (bottom), and checking that the diaphragm is in place.

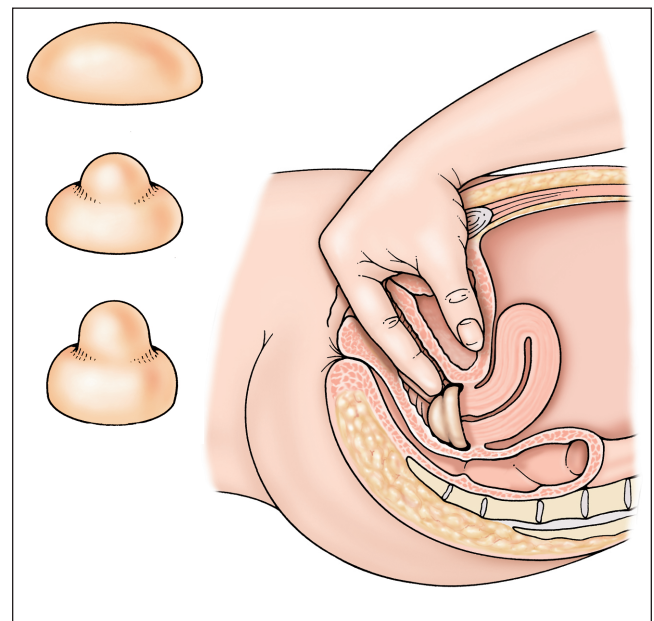


Figure 5. The vault cap (top), the vimule cap (middle), the cervical cap (bottom), and checking that the cap is in place.

What you need to know about your diaphragm or cap

How do I insert it?

- Squeeze the sides of the rim together and slide the diaphragm or cap into the vagina. Push the device upwards as far as it will go along the back wall of the vagina.
- If it is a diaphragm, tuck the front of the rim up behind the pubic bone.
- If it is a cap, it must fit neatly over the cervix like a suction cap.
- Check with your finger that the cervix is covered by the diaphragm or cap.

How long do I leave it in?

- Leave the diaphragm or cap in place for at least six hours after intercourse.
- Before removing it, check that it is still covering the cervix. If it is not, take emergency contraception within 72 hours.
- Do not leave it in for longer than 24 hours without removing and washing it.

How do I clean and store it?

- Wash the diaphragm or cap in warm water, using mild soap. Rinse in clear water. There is no need to use detergents or antiseptics to keep it clean.
- Dry it carefully, dust it with a little cornflour and store it in its box in a cool, dry place. (Cornflour is preferred to talcum powder because it has no preservatives or perfumes.)
- A new diaphragm should be bought if the old one starts to feel

sticky or tacky, like old balloons.

- Check it regularly for holes, by holding it up to the light and gently stretching it. The most common place for the rubber to perish is around the rim.

What is the failure rate, and should I use spermicide?

- Failure rates for the diaphragm vary widely: anything from 4 to 20%. They are affected by many things – the age of the woman, the fit and position of the diaphragm, and whether they are used on every occasion.
- There is no really good evidence that the use of spermicide makes the diaphragm or cap more effective. In most countries, it is still recommended that a small amount of spermicide be used on the side of the barrier nearer the cervix. In Australia, it is more common to leave the choice of whether to use spermicide up to the woman.

Will I need a different size at any stage?

- The size should be checked again if your weight changes by more than 4 kg, or after childbirth or surgery.
- The size should also be checked if the device becomes uncomfortable for either you or your partner.

How much does it cost?

- Diaphragms and caps usually cost somewhere between \$60 and \$100.

than by a spring. They are somewhat more difficult to fit (and for a patient to correctly position) than a diaphragm, and for this reason they tend not to be recommended as a first choice. However, they are very useful in women with poor vaginal tone in whom correct positioning of a diaphragm can be a problem.

Cervical caps come in two main types:

- vault (or Dumas) caps – these cover the vaginal vault and cervix and require a fairly short cervix to allow correct positioning (vimule caps are a variation of the vault cap which accommodate a slightly longer cervix, but they are very rarely used in Australia)
- cervical (or Prentif) caps – these sit

directly over the cervix and require a longer cervix to allow for adequate suction.

Both types of cap come in four sizes and are held in position by pushing the dome of the device inwards to express air, which sucks the device over the cervix like a child's suction cap (Figure 5).

The cervical cap has no equivalent to the fitting ring that is available for diaphragms, and therefore the fitting of these devices tends to be restricted to centres that carry a range of sizes for trial. The appropriate size is chosen by performing a speculum and pelvic examination to determine the length of the cervix and the vaginal vault, and by then trialling the device type and size that appears most appropriate.

The follow-up visit

I believe it is good clinical practice to have the patient insert her own diaphragm or cap and return to the surgery with it in place so the positioning can be checked before she actually relies on it for contraception. At this follow-up consultation, some fine tuning of the fitting technique can take place, and any remaining questions answered. **MT**

Further reading

1. Guillebaud J. Contraception: your questions answered. Edinburgh: Churchill Livingstone, 1993.
2. Sundquist K. Contraception and safe sex: barriers are back. *Mod Med Aust* 1997; 40(3): 56-63.