

January 2007

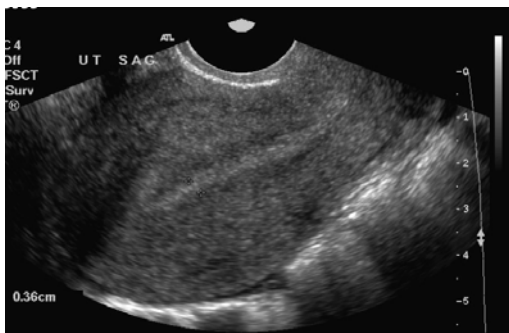
THE GYNAECOLOGICAL ULTRASOUND EXAMINATION

Ultrasound is an accepted and routine part of a gynaecological examination. Ideally it should be performed in the **first half of the menstrual cycle**, after bleeding has ceased. It can be performed when there is bleeding but interpretation of the examination can be difficult.

A pelvic ultrasound examination is incomplete if **transvaginal ultrasound** is not performed. It gives a keyhole view of the pelvis and is ideal to image the uterus, ovaries and adnexa. Myometrial abnormalities such as fibroids and adenomyosis are shown and a global view of the endometrium can be obtained.

Abnormal or heavy bleeding is a common reason for a pelvic ultrasound. Endometrial thickness is often requested as part of the examination but it must be remembered that the thickness is related to the hormonal status, particularly the oestrogen status of the woman. Therefore it is a less reliable indicator of pathology in the **premenopausal** woman, where it is dependent on the stage of the menstrual cycle. It can be quite thick in the second half of the menstrual cycle but still be normal. Thickness does not equate with pathology. The thicker the endometrium the greater the chance of pathology but that is all. **After menopause** a thickness greater than 4mm requires investigation and a histological diagnosis.

3D and 4D ultrasound and **saline infusion sonohysterograms** are more specific imaging techniques and can distinguish submucous fibroids and endometrial polyps from a normal endometrium better than simple transvaginal ultrasound.



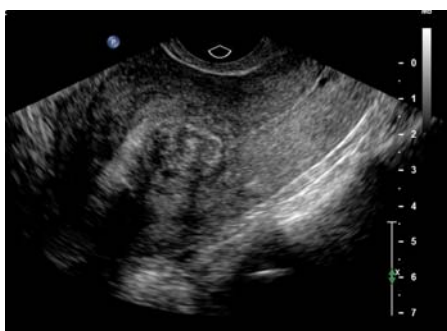
Postmenopausal woman with spotting. Transvaginal ultrasound shows a normal uterus and thin endometrium, significantly reducing the chance of an abnormal or neoplastic process of the endometrium.



This endometrium in this young woman is not particularly thick at 9mm but note lack of clarity of the margins. There are three endometrial polyps hidden in the endometrium.



The polyps are clearly shown following infusion of saline into the uterine cavity.



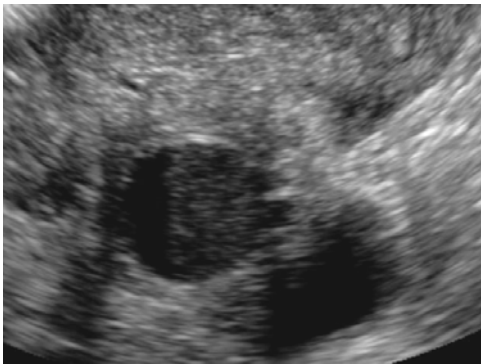
Left image: Submucous fibroid on transvaginal 2D ultrasound.

Right image: A 3D ultrasound image of the submucous fibroid confirms the intracavity position of the fibroid.



Ultrasound for **chronic pelvic pain** is a common request but it seldom provides an answer for the cause of the pain. Pain from transducer pressure may be the only finding and this is nonspecific. Chronic pelvic inflammatory disease and endometriosis will usually only show if there are hydrosalpinges or endometriomas. Haemorrhage into a corpus luteum is a cause of periodic pain and may show as a complex cyst. A **haemorrhagic corpus luteum** has a typical ultrasound appearance and it can safely be left to resolve in 4 to 6 weeks. **Endometriomas** are complex cysts that have a different but also specific ultrasound appearance. With improved technology, the diagnosis of **adenomyosis** of the uterus can be made with greater reliability.

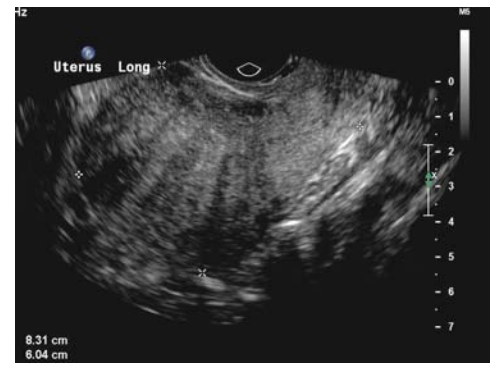
Wendy Hadden.



A typical endometrioma.



This complex adnexal cyst is a small haemorrhagic corpus luteum.



Large bulky uterus with typical ultrasound features of adenomyosis.

HELEN MOORE and CLINTON PINTO become ARG PARTNERS

The Auckland Radiology Group is delighted to announce that Drs Helen Moore and Clinton Pinto have become partners in the practice.



Helen Moore is an Otago graduate (1992) and completed her radiology training in Auckland in 2000. Helen has been associated with ARG since that time. She held a fellowship position in MRI at the Monash Medical Centre in Melbourne in 2002. Helen has wide general interests and expertise, with a special interest in body imaging, including MRI and CT colonography. She has a part-time appointment at Auckland City Hospital.



Clinton Pinto studied medicine and trained in radiology in Auckland. Following a two year fellowship in musculoskeletal imaging at the Leiden University Centre in the Netherlands, he spent two years working in Tauranga. He joined ARG as an associate in February 2005. Clinton maintains an active interest in teaching as well as the history of medicine, having completed an M Phil degree in the topic at Cambridge University. His professional interests are in musculoskeletal / sports imaging, with particular interest in MRI. He has a part-time appointment at Middlemore Hospital.