- The extra blood assists with the neonate's cardiopulmonary transition.
- It decreases the risk of fetomaternal transfusion, which is particularly important in rhesus-negative women.
- It lowers the risk of cerebral hemorrhage in premature infants.

Breast Cancer

Breast Cancer Detection

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Combined Screening With Ultrasound and Mammography vs Mammography Alone in Women at Elevated Risk of Breast Cancer

Berg WA, Blume JD, Cormack JB, et al.

JAMA. 2008;299:2151-2163.

The "Coming of Age" of Nonmammographic Screening for Breast Cancer

Kuhl CK.

JAMA. 2008;299:2203-2205.

Mammography screening can reduce mortality from breast cancer by up to 20% in women older than 50 years. It is, however, far from a perfect screening test, as it is uncomfortable, expensive, and reliant on interpretation skills, and has low sensitivity and high false-positive results. For these reasons, other means of screening are continually researched, especially for women at high risk. Such risk may be calculated by family history, personal lifestyle, combined hormone replacement therapy use, *BRCA2* mutagen–positive status, or dense breast tissue. Dense glandular tissue makes standard mammography less accurate, is common in premenopausal women, and is encountered in 33% of menopausal women.

Digital imaging does not eliminate the problem of missing early noncalcified lesions, but it does partially overcome the dense-tissue difficulty. Ultrasound screening offers another alternative, and its use in high-risk women has been reported by Berg and colleagues. Using mammography alone or mammography plus ultrasound, the researchers found that the early cancer detection rates increased from 8 to 12 per 1000 high-risk women screened using mammography plus ultrasound.

However, in women with dense breast tissue, the positive predictive value of ultrasound was 9% compared with 22% for mammography only, implying a major increase in adjunct investigations if ultrasound were added to routine screening. The tradeoff between increased cancers found and extrainvasive tests has to be calculated, as does the cost. Ultrasound equipment is not expensive, nor is the technique demanding—but it is time consuming. A radiologist can complete 3 ultrasound screenings per hour, during which time 50 mammograms could be read. At that allocation of professional time, ultrasound becomes as expensive as magnetic resonance imaging, which detects small uncalcified tumors and has a negative predictive value close to 100%.

In an editorial, Kuhl discusses the public versus individual cost-effectiveness of various screening options and suggests—at present—that mammography looks best.

Preeclampsia

Diagnosing Preeclampsia

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Accuracy of Mean Arterial Pressure and Blood Pressure Measurements in Predicting Pre-Eclampsia: Systemic Review and Meta-Analysis

Cnossen JS, Vollebregt KC, de Vrieze N, et al.

BMJ. 2008;336:1117-1120.

Diagnostic Accuracy of Urinary Spot Protein: Creatinine Ratio for Proteinuria in Hypertensive Pregnant Women: Systemic Review

Côté AM, Brown MA, Lam E, et al.

BMJ. 2008;336:1003-1006.

Mean Arterial Pressure and Prediction of Pre-Eclampsia

Walsh CA, Baxi LV.

BMJ. 2008;336:1079-1080.

Preeclampsia affects about 5% of all pregnancies and is not confined to any population group. Its diagnosis and treatment is life saving as reflected in fatality rates from eclampsia, ranging from 5% in developing countries to less than 1% in developed countries. In the United Kingdom, it remains the second most common cause of maternal mortality and because a cure has proved elusive, early diagnosis and treatment remain the focus of antenatal care.

Predictors of later disease include family, obstetric, and medical histories and Doppler ultrasound of the uterine artery flow in midpregnancy. These may define very high-risk individuals, but serve only as broad screening methods. The raft of biochemical tests of placental and plasma proteins have been evaluated, but none has reached routine practice. The diagnosis is made from 2 imperfect measures of end organ involvement—hypertension and proteinuria, both reviewed in *BMJ*.

Cnossen and colleagues performed a meta-analysis that suggests that in low-risk populations, mean arterial blood pressure in the first half of pregnancy is a better predictor of later preeclampsia than diastolic and systolic readings or an increase in diastolic pressure. The article suggests that a mean arterial pressure of 90 mm Hg or higher prior to 20 weeks is the most telling measurement, with a sensitivity of 62% and a specificity of 82%. In high-risk groups, a diastolic pressure of greater than 75 mm Hg was the best predictor, but, again, its accuracy was modest.

An editorial by Walsh and Baxi states that the most commonly used cutoff point for the diagnosis of severe preeclampsia is a mean arterial pressure of 125 mm Hg.

The detection of proteinuria, usually in the face of rising blood pressure, confirms the diagnosis of preeclampsia and warrants admission. Significant proteinuria is accepted as 300 mg over 24 hours, but measuring is a tedious process with many causes of inaccurate results; it is not a practical screening mechanism. Although widely used, the urinary dipstick test is neither reliable nor quantitative, and its back-up with another spot test is reported by Côté and colleagues.

The protein to creatinine ratio is a spot test that can be quickly carried out by any laboratory that determines protein and creatinine concentrations in 24-hour specimens. The cutoff point of 30 mg/mmol appears helpful in that women with results below this threshold can be adjudged *not* to have significant proteinuria, which is important information to antenatal day clinics. It is not claimed to be an accurate means of quantifying proteinuria, which still remains an inpatient measure and a crucial determinant of the severity of preeclampsia. Perhaps the role for the urinary spot protein to creatinine ratio is to rule out significant proteinuria in outpatients who are urinary dipstick test–positive, thus saving the stress and cost of unnecessary hospital admission.

Laparoscopy

Laparoscopy and Pain

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A Simple Clinical Maneuver to Reduce Laparoscopy-Induced Shoulder Pain: A Randomized Controlled Trial

Phelps P, Cakmakkaya OS, Apfel CC, Radke OC.
Obstet Gynecol. 2008;111:1155-1160.

Laparoscopy offers many advantages over formal laparotomy in gynecology. Apart from the cosmetic results and reduced hospital stay, patients experience less pain postoperatively, but may feel referred shoulder tip pain. The mechanism of this pain is thought to be carbon dioxide (CO_2) remaining in the abdominal cavity, but it is generated when the phrenic nerve is stimulated, causing C4-referred shoulder pain.

Many means have been employed to reduce this pain, which peaks at 12 hours and is often described as worse than that of the incision. Using nitrous oxide for insufflation or introducing local anesthetic agents into the abdomen does work, but a simple anesthetic technique may prove more effective and less complicated.

Phelps and colleagues randomly allocated laparoscopy patients to standard CO_2 emptying of the abdomen postprocedure (control group) or an intervention carried out by the anesthetist while the surgeon kept the trocar sleeve valve fully open. The maneuver was to place the patient in 30° of Trendelenburg tilt and manually inflate the lungs 5 times, holding the last insufflation for 5 seconds, before leveling the table. This allowed more CO_2 to escape before the trocar was removed and the incisions stitched.

Pain was 50% less in the intervention group at 12, 24, and 36 hours, and the incidence of nausea and vomiting reduced from over 50% to 20%. There were no side effects to the maneuver. The pulmonary inflation of up to 60 cm of water may reduce atelectasis as well.