Stay abreast of cancer diagnosis

NRM scans screening methods from the tried and true to the brand new in breast cancer detection

By Dr Kevin White

How do the current and latest techniques stack up? Here's the prognosis

METHOD	PRO	CON	ACCESSIBILITY	COST
MAMMOGRAMS — the current gold standard for breast cancer screening	• Mammography is backed by a large body of scientific evidence. • There are no absolute contraindications against this method. • Studies show low cost:benefit ratios.	• Sensitivity is low compared to other imaging modalities. • Specificity is generally low, but this is true of virtually all current screening measures. • Diagnostic accuracy is compromised in individuals with dense, glandular breasts. • The procedure is more painful than other tests.	• Mammograms are readily available across Canada and are performed in virtually all radiology departments.	• In Ontario, the technical cost is $37.70 for bilateral breast mammography. • The professional cost for reading mammograms is $21.50 per patient.
MAGNETIC RESONANCE IMAGING (MRI) — sometimes used as an adjunct to mammography	• MRI appears to be more sensitive than mammography for detecting cancerous lesions, especially when they're small. • It can be argued that it's better than mammography for distinguishing between cancerous and non-cancerous lesions. • It's less painful than mammography. MRI is especially useful in patients at high risk (ie, those with a strong familial history). In fact, evidence suggests that MRI may be more cost-effective than mammography in high-risk women.	• Specificity for breast cancers is relatively low, which may result in unnecessary biopsies. • There are several absolute contraindications for MRI, including pacemakers and surgical clips. • Claustrophobia prohibits many patients from submitting to MRI. • There's relatively little research evidence supporting its use as a screening tool.	• Many communities and hospitals don't have this technology. • Waiting lists can be up to a year or more for elective MRI.	• Costs are relatively high. In Ontario, the professional cost for reading MRI of the thorax is $74.05 with $37.05 added for additional views.
SELF-BREAST EXAMINATION (SBE) — puts patient screening in their own hands, literally	• The primary advantage of SBE is that it allows for monthly evaluations at no financial cost. • SBE programs increase patient awareness of breast cancer screening and risks. • The combination of SBE and mammography has been shown to decrease mortality rates. • SBE is convenient and painless.	• Self-exam is the least sensitive and specific screen. • It's of questionable benefit when not combined with mammography. On its own, it doesn't reduce breast cancer mortality. • SBE is highly non-specific in patients with dense, glandular breasts.	• Access is virtually universal since patients perform SBE on themselves. • Anyone who can unhook a bra can perform SBE.	• The only cost is in patient time and effort.
NUCLEAR SCREENING (SCINTIMAMMOGRAPHY AND POSITIVE EMISSION TOMOGRAPHY SCANNING) — can be helpful when combined with other techniques	• Nuclear screening tests (NSTs) are relatively sensitive. • They detect changes in regional blood flow and are potentially useful adjuncts to conventional methods that only detect anatomic changes. • This type of screen may identify local and distant malignant spread, which could reduce the number of unnecessary mastectomies. • NSTs may be particularly useful for screening high-risk individuals.	• NSTs are relatively non-specific. • The procedures are necessarily invasive — they require intravenous injections of radioactive tracer materials. • There's less evidence supporting the use of NSTs for breast cancer screening than any of the previously listed methods.	• Access to NSTs is more limited than SBE or mammography. • Only larger hospitals have nuclear medicine departments. • Waiting lists vary from weeks to months.	• Direct costs of NSTs are greater than SBE or mammography. • In Ontario, the professional cost for an NST reading is $43.90. • The Ministry of Health Schedule of Benefits does not list technical costs for either of these procedures but they should fall between $150 to $2000, depending on a variety of factors, including size of area being visualized, size of patient, etc.