Over 150 potentially low-value health care practices: an Australian study

Adam G Elshaug
MPH, PhD,
NHMRC
Sidney Sax Public
Health Fellow,[1,2] and
Inaugural Visiting Fellow[3]

Amber M Watt
MPH,
Senior Research Officer[2]

Linda Mundy
MPH,
Senior Research Officer,
National Horizon Scanning
Unit, Adelaide Health
Technology Assessment[2]

Cameron D Willis
PhD,
NHMRC Sidney Sax Public
Health Fellow[2,4]

1 Department of Health
Care Policy, Harvard Medical
School, Boston, Mass, USA.

2 School of
Population Health,
University of Adelaide,
Adelaide, SA.

3 The Commonwealth
Fund, New York,
NY, USA.

4 Centre for Clinical
Epidemiology and
Evaluation, Vancouver
Coastal Health Research
Institute, University of
British Columbia,
Vancouver, BC, Canada.

elshaug@
hcp.med.harvard.edu

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Abstract

Objective: To develop and apply a novel method for scanning a range of sources to identify existing health care services (excluding pharmaceuticals) that have questionable benefit, and produce a list of services that warrant further investigation.

Design and setting: A multiplatform approach to identifying services listed on the Australian Medicare Benefits Schedule (MBS; fee-for-service) that comprised: (i) a broad search of peer-reviewed literature on the PubMed search platform; (ii) a targeted analysis of databases such as the Cochrane Library and National Institute for Health and Clinical Excellence (NICE) "do not do" recommendations; and (iii) opportunistic sampling, drawing on our previous and ongoing work in this area, and including nominations from clinical and non-clinical stakeholder groups.

Main outcome measures: Non-pharmaceutical, MBS-listed health care services that were flagged as potentially unsafe, ineffective or otherwise inappropriately applied.

Results: A total of 5209 articles were screened for eligibility, resulting in 156 potentially ineffective and/or unsafe services being identified for consideration. The list includes examples where practice optimisation (ie, assessing relative value of a service against comparators) might be required.

Conclusion: The list of health care services produced provides a launchpad for expert clinical detailing. Exploring the dimensions of how, and under what circumstances, the appropriateness of certain services has fallen into question, will allow prioritisation within health technology reassessment initiatives.

Internationally, there is a groundswell of activity seeking to identify and reduce the use of health care interventions that deliver marginal benefit, be it through overuse, misuse or waste. England's National Institute for Health and Clinical Excellence (NICE) began this work in 2005,[1] and most recently, the Choosing Wisely campaign led by physician groups in the United States is attracting worldwide attention.[2] Other countries, and individual jurisdictions within countries, are also considering the best approaches to reducing the use of low-value health care practices. One problem has been fairness and transparency in identifying and prioritising suboptimal health care practices for consideration. Here, we report on Australian activities; in particular, on a collaborative project aiming to identify existing health care interventions that might warrant analysis from a health technology reassessment and practice optimisation perspective.

Australia's Medicare Benefits Schedule (MBS) — a cornerstone of the Australian universal health care system — lists the rebates that are payable to patients for private medical services provided on a fee-for-service basis, and describes these services. In 2012, the MBS contains almost 6000 items (not including pharmaceuticals); only around 3% of these (accounting for about 1% of total MBS expenditure) have been formally assessed against contemporary evidence of safety, effectiveness and cost-effectiveness.[3]

In the 2009–10 Budget, the Australian Government announced funding over 2 years for a range of projects to develop and implement a new evidence-based MBS Quality Framework — subsequently named the Comprehensive Management Framework for the MBS (CMF)[3] — for managing the MBS into the future. The CMF set out to establish new listing, fee-setting and review mechanisms to ensure that prospective and already listed items: (i) meet agreed standards for effectiveness and safety; (ii) are likely to lead to improved health outcomes for patients; and (iii) represent value for money. The CMF is consistent with international efforts to maximise health outcomes and efficiency. CMF reform sought to improve transparency and provide a stronger evidence base for services listed on the MBS. Box 1 lists the key elements and principles of the framework.

Before the initial Quality Framework was introduced on 1 January 2010, there was no formal process for evaluating existing MBS items that had not been assessed by the Medical Services Advisory Committee (MSAC). Without formalised reviews or a built-in method to update MBS items as clinical practice evolves, items on the MBS have become outdated. Thus, patients may receive treatments that have not been proven to be clinically effective, and financial incentives within the MBS may not always be aligned with best clinical practice.

A universal challenge in this area is to establish a systematic and transparent strategy to identify potential "low-value" clinical services for review.[4-7] Traditional literature search strategies for "unsafe or ineffective care" offer limited utility in isolation.[4] In this report, we describe one CMF project that used a range of information sources to identify items for review through an expanded "environmental scanning" approach. The 2-year CMF timeline dictated an expedited process. This work was developed and undertaken over 8 months in the financial year 2010–11.

1 Key elements and principles of the Comprehensive Management Framework for the Medicare Benefits Schedule (MBS)

Elements

- Introducing a time-limited listing for new MBS items that do not undergo an assessment through the Medical Services Advisory Committee
- Requiring an evaluation process for all time-limited items at the end of the time-limited period and before items can be approved for long-term MBS listing, as well as evaluation of amendments made to MBS items
- Strengthening arrangements for appropriately setting fees for new MBS services
- Establishing systematic MBS monitoring and review processes to inform appropriate amendment or removal of existing MBS items

Principles

- Processes will focus on using evidence to support best outcomes for patients
- Processes will be timely, transparent and offer opportunity for stakeholder participation
- Conflicts of interest will be addressed and actively managed
- Continuous improvement techniques will be applied, and feedback mechanisms will be embedded in processes to foster a quality-improvement culture

Principles to guide MBS reviews

- Reviews have a primary focus on improving health outcomes and the financial sustainability of the MBS, by considering potential:
  - patient safety risk
  - limited health benefit
  - inappropriate use (underuse or overuse) and/or
  - intentional misuse of MBS services
- Reviews are evidence-based, fit-for-purpose and consider all relevant data sources
- Reviews are conducted in consultation with key stakeholders including, but not limited to, the medical profession and consumers
- Review topics are made public, with identified opportunities for public submissions and outcomes of reviews are published
- Reviews are independent of government financing decisions and may result in recommendations representing costs or savings to the MBS, as appropriate, based on the evidence
- Secondary investment strategies to facilitate evidence-based changes in clinical practice are considered
- Review activity represents efficient use of government resources

Source: Medical Benefits Reviews Task Group. Development of a quality framework for the Medicare Benefits Schedule discussion paper.[3] ◆

2 Search terms

String	Terms
String 1: safety	(unsaf*) OR (danger*) OR (adverse event) OR (poor outcome) OR (low quality) OR (poor quality) OR (harm*) OR (contraindicat*)
OR	
String 2: effectiveness	(ineffect*) OR (supersede*) OR (irrelevant*) OR (outdated) OR (new evidence) OR (overuse*) OR (unproven) OR (inappropriat*) OR (equivoc*) OR (uncertain*) OR (obsolete) OR (inferiority) OR (superiority)
OR	
String 3: policy solutions	(disinvest*) OR (coverage with evidence development) OR (CED) OR (access with evidence development) OR (AED) OR (access with evidence generation) OR (reallocat*) OR (resource release) OR (reinvest*)
NOT	
String 4: pharma exclusion	(drug therapy [mh]) OR (drug industry [mh]) OR (pharmaceutical services [mh]) OR (pharmaceutical preparations [mh]) OR (pharmacogenetics [mh]) OR (pharmacoepidemiology [mh]) OR (technology, pharmaceutical [mh])

* = truncation character. AED = access with evidence development. CED = coverage with evidence development. [mh] = medical subject heading. ◆

Methods

A multiplatform approach for searching for and identifying potential medical services for review was developed. This comprised the following three key elements.

Peer-reviewed literature search: a detailed search strategy was applied to the PubMed search platform (Box 2).

Targeted database search: these were conducted of the Cochrane Library, National Institute for Health and Clinical Excellence (NICE) "do not do" recommendations,[8] BlueCross BlueShield Association Technology Evaluation Center assessments[9] and the Canadian Agency for Drugs and Technologies in Health (CADTH) health technology assessments.[10]

Opportunistic sampling: drawing on our experience (from a previous and ongoing program of work in this area) and links with clinical and non-clinical stakeholder groups, both within Australia and internationally, from whom nominations (with evidence) for candidate services were collected.

Each of these three elements contributed to the final sample that was screened for potential candidate services for reassessment.

Peer-reviewed literature search

We used a series of keyword and medical subject heading (MeSH) strings (Box 2) across the bibliographic databases to identify potential candidate services for prioritisation. Exclusion criteria were applied to screens of titles, abstracts and full texts of retrieved articles (Box 3), with further limits and filters applied as shown in Box 4. Subsets of results from Filters 2A (Level I evidence[11]), 2B (Level II evidence[11]) and 2C (remaining literature search) were selected based on their date of publication, with the most recently published studies (2000–2010) forming the subsets (Box 4). Additionally, we undertook relative oversampling from Filter 2A in consultation with representatives from the Department of Health and Ageing, based on the assumption that the higher level of evidence represented in the results would provide greater yield for the final list of services.

Targeted database search

All reports from the Cochrane Library and BlueCross BlueShield Association Technology Evaluation Center assessments were considered, after standard filters (humans, English language, not pharmaceuticals) were applied. All available reports from the NICE "do not do" recommendations and CADTH health technology assessments were considered for inclusion on the master list. These databases offer targeted and specific findings. NICE, for example, teamed with the Cochrane Collaboration to focus their search within Cochrane Reviews and guidelines.[1] This complemented our broader method, but when mapped against existing MBS items, numerous services were filtered out as not relevant to the Australian funding context.

Opportunistic sampling

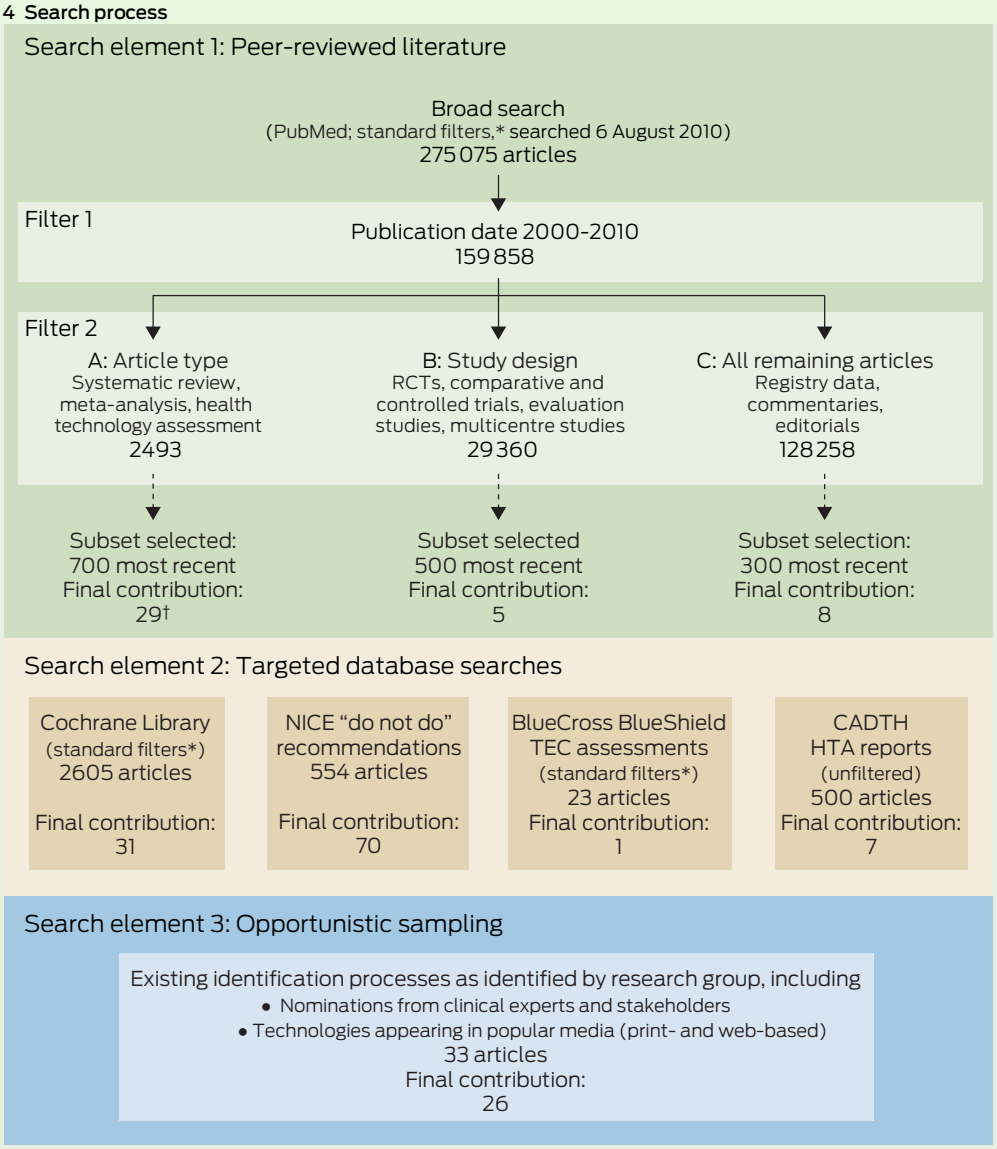
All reports identified by opportunistic sampling were included on the master list before inclusion and exclusion criteria were applied.

3 Exclusion criteria applied in screening articles

No.	Description
1	No technology/procedure/intervention identified in article (eg, study restricted to epidemiological data)
2	Pharmaceutical technology or codependent technology (ie, intervention dependent on pharmaceutical)*
3	Non-clinically defined intervention (eg, public health interventions)
4	Studies presenting favourable data with no comparator
5	Studies without clinically meaningful outcome measures (eg, quality-adjusted life-years, costs)
6	Studies that do not report data relating to safety, effectiveness, inferiority or superiority of intervention
7	Studies that report no difference between intervention and active comparative technology†
8	Studies considering technologies excluded from this project's remit, as defined by the Australian Government Department of Health and Ageing, given they were already undergoing (or slated to undergo) review. Specifically, those relating to: pulmonary artery catheterisation; colonoscopy; obesity surgery; ophthalmology
9	Technologies/procedures that cannot be mapped to existing Medicare Benefits Schedule item numbers
10	No abstract or summary statement to evaluate

* Not within the purview of this project. † Excluded because identifying the inferior service from such studies would likely require additional clinical expertise beyond the scope of this project. ◆

4 Search process



CADTH = Canadian Agency for Drugs and Technologies in Health. HTA = health technology assessment. NICE = National Institute for Health and Clinical Excellence. RCT = randomised controlled trial. TEC = Technology Evaluation Center.
* Standard filters: humans, English, not pharmaceuticals. † Final contribution to list (Appendix; online at mja.com.au) after filtering and mapping evidence for relevance and applicability to existing Medicare Benefits Schedule items; the final list consists of health care services identified by more than one strategy (Box 5). ◆

Inclusion and exclusion criteria

All reports retrieved from the targeted database searches and opportunistic sampling were placed on a master list, alongside results from the peer-reviewed literature search.

After the exclusion criteria (Box 3) were applied to titles, the abstract or executive summary of each included study was obtained and screened. Studies that reported the value of a medical service as inferior or similar to placebo were included, while studies that reported no difference between a service and an active comparator were excluded (because identifying the inferior service from such studies would likely require additional clinical expertise). Articles were screened by the authors of this report, with disagreements resolved through open discussion.

Medical services identified through opportunistic sampling (where evidence supported inclusion) were afforded prioritised inclusion, given they were nominated by clinical and other stakeholders and evidence existed in support. Services described in articles or reports that met the inclusion criteria were mapped to MBS items, with any services not covered by the MBS excluded from further analysis. Pharmaceuticals do not fall under the purview of the MBS and were excluded.

Eligible services were then tracked across search methods to triangulate medical service identification. This enabled us to identify services that appeared across the multiple elements of the search strategy. Triangulation may have value in prioritising

5 Services identified by more than one search method

No.	Broad service description
1	Testing of patients for factor V Leiden gene mutation
2	Arthroscopic surgery for knee osteoarthritis*
3	Testing for C-reactive protein*†
4	Use of chest x-ray for acute coronary syndrome, preoperatively, or in diagnosing respiratory infections
5	Chlamydia screening
6	Exercise electrocardiogram (ECG) for angina
7	Imaging in cases of low back pain*
8	Liver function tests
9	Blood, urine or plasma testing in end-stage renal disease
10	Radical prostatectomy
11	Radiotherapy for patients with metastatic spinal cord disease
12	Routine dilatation and curettage
13	Surgery for obstructive sleep apnoea

* Denotes services identified by all three search elements. † C-reactive protein tests for community-acquired pneumonia from two sources, for urinary tract infections in children in a third. Refer to online appendix for evidence and context (eg, specified indications) for each item. ◆

further work, along with other criteria that we developed previously.[4] This entire process was completed over 8 months by a two-member full-time-equivalent workforce.

Results

A total of 5209 articles were screened for eligibility, resulting in 156 potentially ineffective or unsafe services being flagged for consideration (Appendix; online at mja.com.au). The list includes examples where practice optimisation (ie, comparing the relative value of one treatment option against others) might be required. The Appendix details all the services we identified, including any citations that drew attention to their status as potential candidates, and an extract from the article highlighting key issues relevant to the service. Box 5 lists the 13 services identified by more than one search method; three services were identified by all three methods. While this serves to highlight the crossover points of the search strategies we used, there are other factors related to the candidate services that may influence their relative priority in any assessment process (eg, predominant safety concerns, strong evidence, high volume, cost-effective alternative, etc).[4]

Discussion

In this project, we sought to develop and implement a systematic, evidence-based and transparent process for identifying potentially low-value services in health care. We present this list of candidate services for analysis and debate within and between clinical, research, patient and policy stakeholder communities. Services were identified through a novel search strategy and, although created for and mapped against Australia's MBS, they offer insights for any health care system considering a health technology reassessment agenda. The specificity of services is open for critique, and we expect that context-specific clinical detailing will exclude some services from consideration and/or refine the questions that have been raised within the literature about their uses.

The process we describe in this report has a number of limitations, primarily related to the short time frame imposed on it. Sampling from the broad literature searches based on date of publication is likely to identify technologies or services for which recent evidence may suggest a level of ineffectiveness, and therefore risks missing those whose safety, effectiveness or efficacy has not recently come into question. In addition, time and resource constraints also limited the number of articles retrieved through each filter that could be reasonably evaluated. Thus, only a fraction of potentially relevant articles were included. However, combining these searches with broad reviews of key assessment agencies (CADTH, NICE, etc), as well as obtaining expert clinical input, helps to moderate this potential bias and captures a breadth of medical services that are of key interest across clinical settings and stakeholder groups. Importantly, our process was not intended to be exhaustive or to act as a tool for prioritisation; rather, it aimed to provide a transparent, evidence-based approach to identifying potentially ineffective services. Further testing and refinement of search terms, inclusion and exclusion criteria and database sources is likely to yield important insights into how this process may be improved and tailored to suit specific needs.

Our analysis has highlighted some of the tensions that exist between the paradigm of health technology assessment and the nature of guided service reimbursement, including fee-for-service. Health technology assessment and other clinical assessments of health services are, by nature, geared towards examining services and technologies in very specific populations and for very specific indications. This can be at odds with the broader nature of schedule or service item descriptors. Our work has confirmed that services that are ineffective and/or unsafe across the entire patient population to which they are applied are probably quite rare. Most often, a service shows differential effectiveness profiles, dependent on the characteristics of the population in whom it is applied. Research must indicate the populations most likely to benefit from or be harmed by services, thus allowing the development of

effective policies for refining the indications for coverage and minimising use outside these indications. How this is achieved in various systems will differ: fee-for-service systems might require tighter clinical item and patient descriptors and fee refinements, whereas program budget, bundled or capitated systems can introduce incentives for optimal use of services that offer the best patient outcomes.

For groups pursuing a health technology reassessment agenda, the next steps in the process requires further prioritisation of candidate services to a shortlist of those that may go on to formal review. Numerous methods have been proposed for this, each being somewhat context-specific.[4-7] The assessment type that offers the greatest efficiency needs to be decided on. For example, initial rapid reviews as opposed to full health technology assessments may offer an efficient means of generating value of information to enhance the prioritisation process.

We also acknowledge that there are challenges in reducing or removing candidate services that are confirmed as having low value. Existing technologies or practices have complexities that do not beset those that are new or emerging, mostly because of their established status in medicine and society. These challenges have been discussed elsewhere.[12-19]

Limited resources mean that nations cannot escape having to make difficult health care choices. Identifying and reducing the use of low-value care is becoming a priority for an increasing number of jurisdictions. Each recognises that cost savings or cost-neutral changes can be made within existing health budgets by reducing the use of existing services that offer little or no benefit relative to the cost of their public subsidy. This would allow funding to be reallocated to more beneficial or cost-effective services, thus maximising health gain. We share this project as a step towards fulfilling that objective.

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Appendix

This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

Appendix to: Elshaug AG, Watt AM, Mundy L, Willis CD. Over 150 potentially low-value health care practices: an Australian study. *Med J Aust* 2012; 197: 000-000. doi: 10.5694/mja12.11083.

Appendix: List of 156 health care practices identified and flagged through the search platform as potentially unsafe, ineffective or inappropriate in certain circumstances, including the potential need for optimizing use regarding comparators. Included is an extract from the reference source highlighting context and key issues identified.

Technology/ Service and Indication (where specified)	Citation	Country (where specified)	Issue/s Identified in Citation/s	Search Strategy
Arthroscopic surgery for knee osteoarthritis	Moseley JB, O'Malley K, Petersen NJ, et al. A controlled trial of arthroscopic surgery for osteoarthritis of the knee. N Engl J Med. Jul 11 2002;347(2):81-88.	USA	In controlled trial of patients with osteoarthritis of the knee, outcomes after arthroscopic lavage or arthroscopic debridement were no better than after placebo procedure.	Opportunistic
	National Collaborating Centre for Chronic Conditions. Osteoarthritis: national clinical guideline for care and management in adults. London: Royal College of Physicians, 2008.	UK	Arthroscopic lavage and debridement are surgical procedures that have become widely used. Tidal irrigation, through large bore needles, has been practiced by physicians to a limited degree. These procedures have limited risks, though arthroscopy usually involves a general anaesthetic. These procedures are offered to patients when usual medical care is failing or has failed and the next option, knee arthroplasty, appears too severe, for a variety of reasons, for either the patient or the medical adviser. Arthroscopy may be indicated for true locking, caused by meniscal lesions or loose bodies in the knee joint. These situations are uncommon in patients with osteoarthritis of the knee.	NICE

	Laupattarakasem, W., M. Laopaiboon, et al. (2008) "Arthroscopic debridement for knee osteoarthritis." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD005118.pub2.	Thailand	There is 'gold' level evidence that AD has no benefit for undiscriminated OA (mechanical or inflammatory causes).	Cochrane
Tension free repair for asymptomatic inguinal hernia	Fitzgibbons RJ, Jr., Giobbie-Hurder A, Gibbs JO, et al. Watchful waiting vs repair of inguinal hernia in minimally symptomatic men: a randomized clinical trial. JAMA. Jan 18 2006;295(3):285-292.	USA	Primary outcomes similar at 2yrs for watchful-waiting and repair groups. Moreover, repair of asymptomatic inguinal hernia does not affect the rate of long-term chronic pain.	Opportunistic
Also: O'Dwyer PJ, Norrie J, Alani A, Walker A, Duffy F, Horgan P. Observation or operation for patients with an asymptomatic inguinal hernia: a randomized clinical trial. Ann Surg. Aug 2006;244(2):167-173. (UK)				
Vertebroplasty for painful osteoporotic vertebral fractures	Buchbinder R, Osborne RH, Ebeling PR, et al. A Randomized Trial of Vertebroplasty for Painful Osteoporotic Vertebral Fractures. New England Journal of Medicine. 2009;361(6):557-568.	Australia	No difference between patients receiving vertebroplasty and placebo in terms of pain levels associated with osteoporotic vertebral fractures.	Opportunistic

	Kallmes DF, Comstock BA, Heagerty PJ, et al. A randomized trial of vertebroplasty for osteoporotic spinal fractures. N Engl J Med. Aug 6 2009;361(6):569-579.	USA	Improvements in pain and pain-related disability associated with osteoporotic compression fractures in patients treated with vertebroplasty were similar to the improvements in a control group. (ClinicalTrials.gov number, NCT00068822.) 2009 Massachusetts Medical Society	Opportunistic
Diskectomy/ discectomy	Rahimi-Movaghar V, Rasouli MR, Vaccaro AR. Comparing surgical treatments for sciatica. Jama. Nov 25 2009;302(20):2202-2203; author reply 2203.	Iran	When 2 treatment methods for sciatica were compared (Tubular v conventional micro discectomy) the conventional technique showed significantly better primary functional outcomes on the RDG at 1yr and better secondary outcomes on the visual analog scale for leg and back pain.	Opportunistic
	Stevens CD, Dubois RW, Larequi-Lauber T, Vader JP. Efficacy of lumbar discectomy and percutaneous treatments for lumbar disc herniation. Soz Praventivmed. 1997;42(6):367-379.	USA	Neurologic outcomes are similar in surgical and non-surgical patients. Noteworthy, predominant leg pain and associated symptoms have been found in patients with favourable surgical results.	
Radiofrequency facet joint denervation.	Savigny P, Kuntze S, Watson P, et al. Low Back Pain: early management of persistent non-specific low back pain. London: National Collaborating Centre for Primary Care and Royal College of General	UK	There is very limited evidence exploring the use of this technology. Two studies showed some evidence of benefit for radiofrequency facet joint denervation to reduce pain, whilst one other study found no evidence of benefit. NICE guidance is that facet joint denervation should not to be recommended and that further research is required.	NICE

	Practitioners.			
Also: Leclaire R, Fortin L, Lambert R, Bergeron YM et al. Radiofrequency facet joint denervation in the treatment of low back pain: a placebo-controlled clinical trial to assess efficacy. Spine. 2001; 26 (13):1411-1416. (Canada); Nath S, Nath CA, Pettersson K. Percutaneous lumbar zygapophysial (Facet) joint neurotomy using radiofrequency current, in the management of chronic low back pain: a randomized double-blind trial. Spine. 2008; 33 (12):1291-1297. (Sweden); van Wijk RMAW, Geurts JWM, Wynne HJ, Hammink E et al. Radiofrequency denervation of lumbar facet joints in the treatment of chronic low back pain: a randomized, double-blind, sham lesion- controlled trial. Clin J Pain. 2005; 21 (4):335-344. (Australia)			
Spinal surgery with the intention of preventing metastatic spinal cord compression (MSCC).	NICE Guideline 75: Metastatic spinal cord compression: Diagnosis and management of patients at risk of or with metastatic spinal cord compression, 2008	UK	While surgery has been noted to improve pain levels and function in patients with pain and instability, there is insufficient evidence to determine the value of prophylactic surgery in patients without pain and instability. Patients with spinal metastases without pain or instability should not be offered surgery with the intention of preventing metastatic spinal cord compression (MSCC) except as part of a randomised controlled trial.	NICE
Posterior decompression alone in patients with metastatic spinal cord compression (MSCC).	NICE Guideline 75: Metastatic spinal cord compression: Diagnosis and management of patients at risk of or with metastatic spinal cord compression, 2008	UK	More recently posterior decompression combined with stabilisation (usually with posterior pedicle screws) and when the prognosis justifies, postero-lateral inter-transverse grafting, or postero-lateral vertebral body grafting has permitted more to be achieved than by a limited posterior procedure at less risk to the patient.	NICE
Extrapleural pneumonectomy for mesothelioma	Rusch VW, Piantadosi S, Holmes EC. The role of extrapleural pneumonectomy in malignant pleural	USA	In a multivariate analysis of a prospective trial in patients with untreated malignant pleural mesothelioma, only a small proportion of patients were found to be candidates for extrapleural pneumonectomy: overall survival does	Opportunistic

	mesothelioma. A Lung Cancer Study Group trial. J Thorac Cardiovasc Surg. Jul 1991;102(1):1-9.		not necessarily improve and surgery affects the patterns of relapse.	
Radical prostatectomy	Hu JC, Gu X, Lipsitz SR, et al. Comparative effectiveness of minimally invasive vs open radical prostectomy. JAMA. 2009;302(14):1557-1564	USA	Minimally invasive radical prostatectomy (MIRP) resulted in shorter hospital stay, fewer respiratory and surgical complications and strictures, similar post-operative cancer therapies compared to radical prostatectomy (RRP).	Opportunistic
Transurethral resection of the prostate for symptomatic benign prostatic obstruction	Hoffman Richard, M., R. MacDonald, and T. Wilt (2000) Laser prostatectomy for benign prostatic obstruction. Cochrane Database of Systematic Reviews Volume, DOI: 10.1002/14651858.CD001987.pub2	UK	Improvements in LUTS and urine flow slightly favored TURP, though laser procedures had fewer side effects and shorter hospitalization times. The follow-up durations of these studies ranged from 6 to 36 months and men with extremely large prostates were generally excluded from the trials.	Cochrane
Radical prostatectomy and external beam radiation therapy	Marcus DM, Jani AB, Godette K, Rossi PJ. A review of low-dose-rate prostate brachytherapy--techniques and outcomes. J Natl Med Assoc. Jun 2010;102(6):500-510.	USA	Technological advances, including improvements in imaging, planning, and post-implant quality assessment by dosimetry have led to widespread use of brachytherapy. Outcomes for prostate brachytherapy have been shown to be equivalent, in selected patients, to those of other treatment modalities for prostate cancer, including radical prostatectomy and external beam radiation therapy. Further, prostate brachytherapy has quality-of-life benefits in comparison to radical prostatectomy and	2C

			external beam radiation therapy, particularly in the domain of sexual function.	
Prostatectomy for early stage prostate cancer	Klotz L, Zhang L, Lam A, et al. Clinical results of long-term follow-up of a large, active surveillance cohort with localized prostate cancer. J Clin Oncol. 2009;28(1):126-131	Canada	Radical prostatectomy may be associated with unnecessary surgery in men with prostate cancer - overall survival after 10 tears was 78% with other cause mortality accounting for almost all of the deaths in the watchful-waiting group.	Opportunistic
Active surveillance for men with high-risk localised prostate cancer (active surveillance includes PSA testing and prostate biopsy)	NICE Guidance 58: Prostate cancer: diagnosis and treatment, 2008	UK	Active surveillance enables the risk category to be re-assessed at regular intervals by serial PSA estimations, and trans-rectal ultrasound (TRUS) guided prostate biopsy. Active surveillance is an option for men with low-risk disease who are fit for radical treatment in the event of disease progression, however it is not recommended for men with high-risk localised prostate cancer.	NICE
Removal of Adenoids	NICE Guideline 60: Surgical management of otitis media with effusion in children, National Collaborating Centre for Women's and Children's Health, Commissioned by the National Institute for Health and Clinical Excellence February 2008	UK	Adjuvant adenoidectomy along with ventilation tube insertion is routinely performed in many countries for recurrent episodes of OME and chronic persistent OME, but the practice is not backed by sufficiently precise scientific evidence. In the trials that evaluated the combined effect of unilateral ventilation tube insertion and adenoidectomy, the improvement in hearing level was less than that seen for the insertion of unilateral ventilation tubes alone. The hearing levels improved by 5.2 dB (95% CI 3.5 to 7.1 dB) at 1–3 months, 3.6 dB (95%	NICE

			CI 2.0 to 5.3 dB) at 4–6 months and 1.4 dB (95% CI 0.1 to 2.7 dB) at 7–12 months. No significant improvement was observed at 2 and 5 year follow-up.	
	Kay DJ, Nelson M and Rosenfeld RM. Meta-analysis of tympanostomy tube sequelae. Otolaryngology - Head and Neck Surgery 2001;124:374–80.	USA	Infections of the upper respiratory tract, presenting as recurrent nasal symptoms (nasal discharge with or without nasal obstruction) are very common in children. Removal of the adenoids (adenoidectomy) is a surgical procedure that is frequently performed in these children. It is thought that adenoidectomy prevents recurrence of nasal symptoms. Our review, which includes two studies (256 children), shows that it is uncertain whether adenoidectomy is effective in children with recurrent or chronic nasal symptoms. Further high quality trials are needed.	Cochrane
Also: Randall DA and Hoffer ME. Complications of tonsillectomy and adenoidectomy. Otolaryngology – Head and Neck Surgery 1998;118:61–8. (USA); van den Aardweg Maaike, T. A., G. M. Schilder Anne, et al. (2010) "Adenoidectomy for recurrent or chronic nasal symptoms in children." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD008282. (Netherlands)				
Lower-extremity arteriovenous access for haemodialysis	Antoniou GA, Lazarides MK, Georgiadis GS, et al. Lower-extremity arteriovenous access for haemodialysis: a systematic review. Eur J Vasc Endovasc Surg. Sep 2009;38(3):365-372.	UK	Data on Saphenous vein loop grafts, upper and mid-thigh prosthetic grafts, reported lower 12 month primary and secondary patency rates and higher rates of access loss due to infection compared to femoral vein transposition grafts in the lower limbs of endstage renal patients.	2A

Pelvic Lymphadenectomy for the management of endometrial cancer	May, K., A. Bryant, et al. (2010) "Lymphadenectomy for the management of endometrial cancer." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD007585.pub2.	UK	Only for women with endometrial cancer: only two trials compared lymphadenectomy with no lymphadenectomy in women with endometrial cancer. These two trials enrolled 1945 women. When we combined the findings from these two trials, we found that there was no evidence that women who received lymphadenectomy were less likely or more likely to die or have a relapse of their cancer. There were a considerable number of deaths and disease recurrences in the trials. Kitchener 2009 reported 191 deaths and 173 disease recurrences; Panici 2008 reported 53 deaths and 78 disease recurrences, so the estimates are likely to be accurate. The uncertainty of whether lymphadenectomy or no lymphadenectomy is best probably reflects the fact that there is no benefit in undertaking lymphadenectomy, rather than a lack of statistical power to detect a difference. More women experienced severe adverse events as a consequence of lymphadenectomy than those having no lymphadenectomy. The main limitations of the review were that we did not find any trials that evaluated either pelvic lymph node sampling, pelvic and para-aortic lymphadenectomy or the removal of bulky pelvic lymph nodes and the fact that quality of life (QOL) was not reported in either trial. The QOL for women following treatment is especially important for a condition that has relatively good survival rates.	Cochrane
Endovascular repair of infrarenal abdominal aortic	Chambers D, Epstein D, Walker S, et al. Endovascular stents for abdominal aortic	UK	Endovascular aneurysm repair is associated with increased rates of complications and re-interventions, which are not offset by any increase in health-related	2A

aneurysms	aneurysms: a systematic review and economic model. Health Technol Assess. Oct 2009;13(48):1-189, 215-318, iii.		quality of life. Open repair is more likely to be cost-effective than EVAR on average in patients considered fit for open surgery.	
Medial pinning of supracondylar humeral fractures	Babal JC, Mehlman CT, Klein G. Nerve injuries associated with pediatric supracondylar humeral fractures: a meta-analysis. J Pediatr Orthop. Apr-May 2010;30(3):253-263.	US	The ulnar nerve is at risk of damage with medial pinning treatment. Medial pinning carries overall higher risk of neural damage in children than lateral -only pinning	2A
External fixation versus conservative treatment for distal radial fractures in adults	Handoll Helen, H. G., S. Huntley James, et al. (2007) External fixation versus conservative treatment for distal radial fractures in adults. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD006194.pub2		There is some evidence to support the use of external fixation for dorsally displaced fractures of the distal radius in adults. Though there is insufficient evidence to confirm a better functional outcome, external fixation reduces re-displacement, gives improved anatomical results and most of the excess surgically-related complications are minor.	Cochrane
Open surgery for carotid occlusive disease	Knur, R. (2009). "Carotid artery stenting: a systematic review of randomized clinical trials." Vasa 38(4): 281-291.	Switzer-land	Stenting is more beneficial than surgery in high risk patients with carotid occlusive disease. The Stenting and Angioplasty with Protection in Patients at High Risk for Endarterectomy (SAPPHIRE) trial favored stenting over surgery in high-risk patients for improved survival.	2A

Prophylactic surgical ligation of patent ductus arteriosus for prevention of mortality and morbidity in extremely low birth weight infants	Mosalli, R. and K. AlFaleh (2008) "Prophylactic surgical ligation of patent ductus arteriosus for prevention of mortality and morbidity in extremely low birth weight infants." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD006181.pub2.	Saudi Arabia	Prophylactic (very early) closure of the ductus arteriosus (within 72 hours after birth) can be achieved medically or surgically. Little is known about the effectiveness and safety of very early surgical closure (ligation). The review found that surgical ligation in preterm infants reduced the risk of severe necrotizing enterocolitis (NEC), a gastrointestinal disease that mostly affects premature infants involving infection and inflammation of the bowel (intestine); however, early surgical ligation did not decrease the risk of death, chronic lung disease and other major complications of preterm infant. In view of the lack of significant benefit and growing data suggesting the potential harm of such treatment modality, current evidence does not support the use of early surgical ligation of PDA in the management of preterm infants.	Cochrane
Endoscopic retrograde cholangiopancrea-tiography in acute gallstone pancreatitis without cholangitis	Uy MC, Daez ML, Sy PP, et al. Early ERCP in acute gallstone pancreatitis without cholangitis: a meta-analysis. JOP. 2009;10(3):299-305.	Philippines	Seven RCTs were retrieved, but only two RCTs involving 177 treated patients and 163 control patients were included. A meta-analysis on morbidity was inconclusive (RR=0.95, 95% CI: 0.74-1.22). Meta-analysis on mortality only showed a trend in favor of conservative management (RR=1.92, 95% CI: 0.86-4.32) for both mild and severe pancreatitis. There is a trend towards more mortality from early ERCP with or without sphincterotomy in the setting of acute gallstone pancreatitis without cholangitis.	2A

Total fundoplication for gastroesophageal reflux disease	Varin O, Velstra B, De Sutter S, Ceelen W. Total vs partial fundoplication in the treatment of gastroesophageal reflux disease: a meta-analysis. Arch Surg. Mar 2009;144(3):273-278.	Belgium	Total fundoplication resulted in a significantly higher incidence of postoperative dysphagia (odds ratio [OR], 1.82-3.93; P < .001), bloating (OR, 1.07-2.56; P = .02), and flatulence (OR, 1.66-3.96; P < .001). The reoperation rate was significantly higher after TF compared with PF (OR, 1.13-3.95; P = .02).	2A
Upper airway surgery for obstructive sleep apnoea syndrome	Kezirian EJ, Malhotra A, Goldberg AN, White DP. Changes in obstructive sleep apnea severity, biomarkers, and quality of life after multilevel surgery. Laryngoscope. Jul 2010;120(7):1481-1488.	USA	There was no overall change in C-reactive protein levels following surgery, but responders demonstrated a decrease (-1.02 +/- 0.98 mg/L, P = .003) that was independent of changes in body weight. There were no significant changes in other health-related measures. Responders and non-responders both demonstrated improvements in sleep-related quality of life. Multilevel surgery was associated with a low likelihood of response in subjects with body mass index >32 kg/m(2).	2C
	Franklin KA, Anttila H, Axelsson S, Gislason T, Maasilta P, Myhre KI, Rehnqvist N. Effects and side-effects of surgery for snoring and obstructive sleep apnea--a systematic review. Sleep. 2009 Jan 1;32(1):27-36.		Only a small number of randomized controlled trials with a limited number of patients assessing some surgical modalities for snoring or sleep apnea are available. These studies do not provide any evidence of effect from laser-assisted uvulopalatoplasty or radiofrequency ablation on daytime sleepiness, apnea reduction, quality of life or snoring.	Opportunistic

Emergency pulpectomy	Lynch CD, Burke FM, Riordain RN, Hannigan A. Endodontic treatment completion following emergency pulpectomy. Community Dent Health. Jun 2010;27(2):114-117.	Ireland	Of 574 patients undergoing pulpectomy, 39% (n = 224) returned to have endodontic treatment completed, 11% (n = 63) returned to have the tooth extracted, and 50% (n = 287) did not return for completion of the endodontic treatment. Proper patient selection and pre-treatment counseling are important considerations when planning emergency pulpectomies to avoid inappropriate use of resources and manpower.	2C
Hysterectomy as a first-line treatment solely for heavy menstrual bleeding (HMB).	NICE clinical guideline 44: Heavy menstrual bleeding, 2007	UK	One systematic review was available. The review showed that, in secondary care settings, surgery has a slight advantage over pharmaceutical treatments, but that this diminishes with time (control of bleeding at 5 years (n = 140) OR 1.99 [95% CI 0.84 to 4.73]) in favour of surgery). NICE placed a high value on women avoiding hysterectomy and retaining their uterus- therefore hysterectomy should not be used as a first line treatment in women with heavy menstrual bleeding.	NICE
Also: Marjoribanks J, Lethaby A, Farquhar C. Surgery versus medical therapy for heavy menstrual bleeding. (Cochrane Review). In: Cochrane Database of Systematic Reviews, Issue 2, 2006. Oxford: Update Software. (New Zealand)				
Surgical approach to hysterectomy for benign gynaecological disease, abdominal hysterectomy (AH), vaginal hysterectomy (VH), and	Nieboer Theodoor, E., N. Johnson, et al. (2009) "Surgical approach to hysterectomy for benign gynaecological disease." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD003677.pub4.	Nether-lands	AUTHORS' CONCLUSIONS: Because of equal or significantly better outcomes on all parameters, VH should be performed in preference to AH where possible. Where VH is not possible, LH may avoid the need for AH however the length of the surgery increases as the extent of the surgery performed laparoscopically increases. The surgical approach to hysterectomy should be decided by the woman in discussion with her surgeon in light of the	Cochrane

laparoscopic hysterectomy (LH).			relative benefits and hazards.	
Caesarean section without medical indication	Zupancic JAF. The Economics of Elective Cesarean Section. Clinics in Perinatology. 2008;35(3):591-599.	USA	The frequency of maternal request caesarian section without clinical indication is increasing and likely to be risking long-term effects of injury to the infant such as neurologic events and brachial plexus palsy, as well as the potential need for operative delivery in future pregnancies for the mother as well as being less cost effective than choosing vaginal delivery.	Opportunistic
Temporary defunctioning stoma in people undergoing anal sphincter repair	Hasegawa H, Yoshioka K, Keighley MR. Randomized trial of fecal diversion for sphincter repair. Diseases of the Colon and Rectum 2000, 43(7):961-4	UK	One study randomised 27 patients with faecal incontinence requiring sphincter repair to additional defunctioning stoma (n=13) or no stoma (n=14). There was no significant difference between groups in any of the outcomes measured, for example, the Cleveland Clinic Incontinence Score, complications, and hospital stay at a mean follow-up period of 34 months. People undergoing anal sphincter repair should not routinely receive a temporary defunctioning stoma.	NICE

Intracavity lavage to reduce the risk of surgical site infection.	NICE Guideline 74, 2008: Surgical site infection prevention and treatment of surgical site infection	UK	There is no evidence that intracavity lavage with antibiotics, other than a single small study of tetracycline lavage after contaminated surgery, reduces the incidence of SSI. There is some evidence that postoperative lavage of the perineal space with povidone-iodine reduces SSI. Routine tetracycline intracavity lavage to reduce the risk of SSI should not be used with the advent of rational effective antibiotic prophylaxis. A single poorly reported RCT suggests that use of pulsed saline lavage may reduce SSI incidence following orthopaedic surgery compared with washout with saline in a jug or syringe. However, this finding is specific to hemiarthroplasty surgery and is not generalisable to other types of surgery. Improvements in current practice might have made wound and intracavity lavage unnecessary for the prevention of SSI.	NICE
Also: Greig J, Morran C, Gunn R, et al. Wound sepsis after colorectal surgery: the effect of cefotetan lavage. Chemioterapia 1987;6 (2 Suppl):595–6.; Rambo WM. Irrigation of the peritoneal cavity with cephalothin. American Journal of Surgery 1972;123:192–5. (USA); Schein M, Gecelter G, Freinkel W, et al. Peritoneal lavage in abdominal sepsis: A controlled clinical study. Archives of Surgery 1990;125:1132–5.; Sherman JO, Luck SR, Borger JA. Irrigation of the peritoneal cavity for appendicitis in children: a double-blind study. Journal of Pediatric Surgery 1976;11:371–4.; Baker DM, Jones JA, Nguyen-Van-Tam JS, et al. Taurolidine peritoneal lavage as prophylaxis against infection after elective colorectal surgery. British Journal of Surgery 1994;81:1054–6. (UK); Johnson JN, Croton RS, McGlinchey JJ, et al. The effect of povidone-iodine irrigation on perineal wound healing following proctectomy for carcinoma. Journal of Hospital Infection 1985;6(SUPPL A):81–6.				

Routine episiotomy associated with spontaneous vaginal birth. Routine episiotomy associated with vaginal birth following previous third- or fourth-degree trauma.	NICE Guideline 55: Intrapartum care of healthy women and their babies during childbirth, 2007	UK	There is considerable high-level evidence that the routine use of episiotomy (trial mean 71.6%; range 44.9% to 93.7%) is not of benefit to women either in the short or longer term, compared with restricted use (trial mean 29.1%; range 7.6% to 53.0%).	NICE
Open total mesorectal excision for rectal cancer	Breukink, S., J.-P. Pierie, et al. (2006) Laparoscopic versus open total mesorectal excision for rectal cancer. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD005200.pub2		Based on evidence mainly from non-randomized studies, LTME appears to have clinically measurable short-term advantages in patients with primary resectable rectal cancer compared to open excision. The long-term impact on oncological endpoints awaits the findings from large on-going randomized trials.	Cochrane
Anal fistula surgery in patients with inflammatory bowel disease	Chung, W., et al., Outcomes of anal fistula surgery in patients with inflammatory bowel disease. Am J Surg, 2010. 199(5): p. 609-13.	Canada	Compared surgical flap advancement, closure of the primary fistula opening in patients with inflammatory bowel disease using a biologic anal fistula plug had improved healing. Given its low morbidity and relative simplicity, the anal fistula plug should be considered for treating high trans-sphincteric anal fistulas in patients with inflammatory bowel disease.	2B
Laparoscopic vs open colposuspension for	Dean, N., G. Ellis, et al. (2006) Laparoscopic colposuspension		When compared with laparoscopic colposuspension, open colposuspension showed better short and medium-term	Cochrane

urinary incontinence in women	for urinary incontinence in women. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD002239.pub2		objective outcomes, and to be less costly.	
Scalpel versus no-scalpel incision for vasectomy	Cook Lynley, A., A. Pun, et al. (2007) Scalpel versus no-scalpel incision for vasectomy. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD004112.pub3		The no-scalpel approach to the vas resulted in less bleeding, hematoma, infection, and pain as well as a shorter operation time than the traditional incision technique.	Cochrane
Tube thoracostomy (TT) in thoracic surgery clinics	Dural, K., et al., A novel and safe technique in closed tube thoracostomy. J Cardiothorac Surg, 2010. 5: p. 21.	Turkey	A patient group undergoing tube thoracostomy using the combination method (surgery and trocar technique) experienced no insertion complications when compared to a patient group who, when undergoing tube thoracostomy using the trocar technique only, did experience some insertion complications.	2B
Neurosurgical clipping for patients with aneurysmal subarachnoid hemorrhage	van der Schaaf, I., A. Algra, et al. (2005) Endovascular coiling versus neurosurgical clipping for patients with aneurysmal subarachnoid haemorrhage. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD003085.pub2	Nether-lands	The evidence comes mainly from one large trial. For patients in good clinical condition with ruptured aneurysms of either the anterior or posterior circulation we have firm evidence that, if the aneurysm is considered suitable for both surgical clipping and endovascular treatment, coiling is associated with a better outcome.	Cochrane

Femoral central vein catheterization	Hamilton Helen, C. and D. Foxcroft (2007) Central venous access sites for the prevention of venous thrombosis, stenosis and infection in patients requiring long-term intravenous therapy. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD004084.pub2		Trial results for infectious complications, mechanical complications and thrombotic complications all favoured subclavian access over femoral access.	Cochrane
Ultrasound-guided internal jugular (USIJ) versus the subclavian (SC) vein approach for central venous cannulation (CVC)	Theodoro, D., et al., A descriptive comparison of ultrasound-guided central venous cannulation of the internal jugular vein to landmark-based subclavian vein cannulation. Acad Emerg Med, 2010. 17(4): p. 416-22.	USA	USIJ technique may result in fewer adverse events compared to the landmark SC approach - (descriptive only).	2B
Implantable cardioverter defibrillators	Sanders GD, Hlatky MA, Owens DK. Cost-Effectiveness of Implantable Cardioverter Defibrillators. New England Journal of Medicine. 2005;353(14):1471-1480.	USA	In 2 trials - the Coronary Artery Bypass Graft Patch trial and the Defibrilator in Acute Myocardial Infarction Trial - the prophylactic implantation of the ICD did not reduce the risk of death, was more expensive and less effective than control therapy. In all trials the ICD increased the lifetime costs.	Opportunistic

Coronary stenting (angioplasty) for stable angina & in diabetic patients with multivessel disease	Wijeysundera HC, Nallamothu BK, Krumholz HM, et al. Meta-analysis: Effects of Percutaneous Coronary Intervention Versus Medical Therapy on Angina Relief. Annals of Internal Medicine. March 16, 2010 2010;152(6):370-379.	Canada	There is no difference in symptom relief between angina patients treated with contemporary medications and angioplasty techniques.	Opportunistic
Off-pump heart bypass	Shroyer AL, Grover FL, Hattler B, et al. On-Pump versus Off-Pump Coronary-Artery Bypass Surgery. N Engl J Med. 2009;361(19):1827-1837	USA	After 1 year, the off-pump patient group had worse outcomes than the on-pump group. There was no significant difference in neuropsychological outcomes or resource use.	Opportunistic
Routine dilation and curettage for missed abortion	Lichter ED, Laff SP, Friedman EA. Value of Routine Dilation and Curettage at the Time of Interval Sterilization. Obstetrics & Gynecology. 1986;67(6):763-765.	USA	Routine Dilation and curettage is not cost effective for tubal ligation patients.	Opportunistic
Dilatation and curettage as a diagnostic tool OR therapeutic treatment	Ben-Baruch G, Seidman DS, Schiff E, et al. Outpatient endometrial sampling with the Pipelle curette. Gyn & Obs Investigation 1994;37:260–2.	UK	A diagnostic study (n = 269) on women with AUB found that 154 of 170 (90.6%) samples obtained by Pipelle biopsy gave enough information for histology, compared with 66 of 97 (68%) of those obtained by dilatation and curettage ($P < 0.0001$ for difference).	NICE

	Haynes PJ, Hodgson H, Anderson AB, et al. Measurement of menstrual blood loss in patients complaining of menorrhagia. British Journal of Obstetrics and Gynaecology 1977;84(10):763–8.	UK	Limited evidence is available on the use of therapeutic dilatation and curettage for HMB, but the one study that was identified showed that any effect was temporary.	
Vena Caval Filters for the prevention of pulmonary embolism	Young, T., H. Tang, et al. (2010) "Vena caval filters for the prevention of pulmonary embolism." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD006212.pub4.	Australia	The latest generation of filters are temporary or 'retrievable'. They can be removed at the manufacturer's recommendation between two to 12 weeks, if their use is no longer required. However, despite being called retrievable, a number of retrievable filters cannot be removed because of complications. The long-term safety profile of these devices left inside the body remains to be seen. No recommendations can be made regarding filter efficacy in preventing pulmonary embolism. In the PREPIC trial, caval filters were associated with an increased risk of blood clot formation in the legs following their insertion. This study did not demonstrate any difference in the death rates between the two groups; the participants were older (average age 73 years) with co-existing medical conditions and the majority of people died from cancer-related causes or heart problems. No details were recorded of adverse events of filters, but the numbers in this trial were not of sufficient size to detect them. There is a lack of information on the effectiveness of caval filters in other clinical scenarios, especially in the two situations where they are used most frequently and thought to be	Cochrane

			the most advantageous. These are when patients cannot be anticoagulated, or when pulmonary embolism occurs despite adequate anticoagulation. Vena caval filter use is increasing and more trials are needed to confirm their benefit and accurately assess their safety.	
Radiotherapy following mastectomy to patients with early invasive breast cancer at low risk of local recurrence	NICE Guideline 80: Early and locally advanced breast cancer: diagnosis and treatment, 2009	UK	The effects of radiotherapy on overall survival were of less benefit for women with negative lymph nodes than those with positive lymph nodes. NICE Guidance: do not offer radiotherapy following mastectomy to patients with early invasive breast cancer who are at low risk of local recurrence (for example, most patients who are lymph node-negative).	NICE
Also: Clarke M, Collins R, Darby S, Davies C, Elphinstone P, Evans E, et al. (2005) Effects of radiotherapy and of differences in the extent of surgery for early breast cancer on local recurrence and 15-year survival: an overview of the randomised trials. Lancet, 366: 2087–2106. (UK); Gebski V, Lagleva M, Keech A, Simes J, Langlands AO (2006) Survival effects of postmastectomy adjuvant radiation therapy using biologically equivalent doses: a clinical perspective. J Natl Cancer Inst, 98 (1): 26–38. (Australia); Killander F, Anderson H, Rydén S, Möller T, Aspegren K, Ceberg J, et al. (2007) Radiotherapy and tamoxifen after mastectomy in postmenopausal women: 20 year follow-up of the South Sweden Breast Cancer Group randomised trial SSBCG II:I. Eur J Cancer, 43 (14): 2100–2108. (Sweden).				
Conventional photon irradiation in treatment of chordoma	Amichetti M, Cianchetti M, Amelio Det al. Proton therapy in chordoma of the base of the skull: a systematic review. Neurosurg Rev. Oct 2009;32(4):403-416.	Germany	The use of protons showed better results in comparison to the use of conventional photon irradiation, giving the best long-term (10 years) outcome for chordoma with relatively few significant complications considering the high doses delivered with this therapeutic modality.	2A

Adjuvant radiotherapy with surgery for endometrial cancer	Blake P, Swart AM, Orton J, et al. Adjuvant external beam radiotherapy in the treatment of endometrial cancer (MRC ASTEC and NCIC CTG EN.5 randomised trials): pooled trial results, systematic review, and meta-analysis. Lancet. Jan 10 2009;373(9658):137-146.	UK	Adjuvant external beam radiotherapy cannot be recommended as part of routine treatment for intermediate or high-risk endometrial cancer. There was no evidence that overall survival with external beam radiotherapy was better than observation.	2A
Hypothermia for traumatic head injury	Sydenham, E., I. Roberts, et al. (2009) "Hypothermia for traumatic head injury." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD001048.pub4.	UK	AUTHORS' CONCLUSIONS: There is no evidence that hypothermia is beneficial in the treatment of head injury. Hypothermia may be effective in reducing death and unfavourable outcomes for traumatic head injured patients, but significant benefit was only found in low quality trials. Low quality trials have a tendency to overestimate the treatment effect. The high quality trials found no decrease in the likelihood of death with hypothermia, but this finding was not statistically significant and could be due to the play of chance. Hypothermia should not be used except in the context of a high quality randomised controlled trial with good allocation concealment.	Cochrane
Standard central venous catheters	Hockenhull, J. C., K. M. Dwan, et al. (2009). The clinical effectiveness of central venous catheters treated with anti-infective agents in	US	Anti-infective catheters appear to be effective in reducing catheter-related bloodstream infections compared to standard central venous catheters	2A

	preventing catheter-related bloodstream infections: a systematic review. Crit Care Med 37(2): 702-712.			
	Rabindranath, K. S., T. Bansal, et al. (2009). "Systematic review of antimicrobials for the prevention of haemodialysis catheter-related infections." Nephrol Dial Transplant 24(12): 3763-3774.	UK	Anti-microbial catheter locks significantly reduce the rates of catheter-related infections and exit site infections in haemodialysis patients.	2A
CBT for schizophrenia, bipolar disorder and major depression	Lynch, D., K. R. Laws, et al. (2010). "Cognitive behavioural therapy for major psychiatric disorder: does it really work? A meta-analytical review of well-controlled trials." Psychol Med 40(1): 9-24.	UK	On present evidence CBT is not better than control treatment for schizophrenia or bipolar disorder and does not prevent relapse.	2A
Stem Cell transplantation for AML	Koreth, J., R. Schlenk, et al. (2009). "Allogeneic stem cell transplantation for acute myeloid leukemia in first complete remission: systematic review and meta-analysis of prospective clinical trials." JAMA 301: 2349-2361.	US	Stem Cell transplantation is not recommended for at-risk AML patients in first complete remission due to poor remission-free survival in this group.	2A

Neonatal circumcision	Perera, C. L., F. H. Bridgewater, et al. (2010). Safety and efficacy of nontherapeutic male circumcision: a systematic review. Ann Fam Med 8(1): 64-72.	US	Current evidence fails to recommend widespread neonatal circumcision for the prevention of sexually transmitted infections, urinary tract infections and penile cancer.	2A
Vertebral Biopsy	Griffith JF, Guglielmi G. Vertebral fracture. Radiol Clin North Am. May 2010;48(3):519-529.	USA	Radiologists are best placed to draw attention to the presence of vertebral fractures, most of which are clinically silent. Magnetic resonance imaging supplemented if necessary by computed tomography is usually sufficient to enable distinction between osteoporotic and non-osteoporotic vertebral fracture, without a need for percutaneous biopsy.	2C
Whole brain radiotherapy for the treatment of multiple brain metastases	Tsao May, N., N. Lloyd, et al. (2006) Whole brain radiotherapy for the treatment of multiple brain metastases. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD003869.pub2.	Canada	The update has not changed the conclusions of this review: none of the RCTs with altered dose-fractionation schemes as compared to standard (3000 cGy in 10 fractions) found a benefit in terms of overall survival, neurologic function, or symptom control. The use of radiosensitisers or chemotherapy in conjunction with WBRT remains experimental. Radiosurgery boost with WBRT may improve local disease control in selected participants, although survival remains unchanged for participants with multiple brain metastases. The benefit of WBRT as compared to supportive care alone has not been studied in RCTs. It may be that supportive care alone, without WBRT, is appropriate for some participants, particularly those with advanced disease and poor	Cochrane

			performance status.	
Radiotherapy for neovascular age-related macular degeneration	Evans Jennifer, R., V. Sivagnanavel, et al. (2010) "Radiotherapy for neovascular age-related macular degeneration." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD004004.pub3.	UK	Thirteen trials (n=1154) investigated external beam radiotherapy with dosages ranging from 7.5 to 24 Gy; one additional trial (n=88) used plaque brachytherapy (15Gy at 1.75mm for 54 minutes/12.6 Gy at 4mm for 11 minutes). Most studies found effects (not always significant) that favoured treatment. Overall there was a small statistically significant reduction in risk of visual acuity loss in the treatment group. There was considerable inconsistency between trials and the trials were considered to be at risk of bias, in particular because of the lack of masking of treatment group. Subgroup analyses did not reveal any significant interactions, however, there were small numbers of trials in each subgroup (range three to five). There was some indication that trials with no sham irradiation in the control group reported a greater effect of treatment. The incidence of adverse events was low in all trials; there were no reported cases of radiation retinopathy, optic neuropathy or malignancy. Three trials found non-significant higher rates of cataract progression in the treatment group. Authors' conclusions This review currently does not provide convincing evidence that radiotherapy is an effective treatment for neovascular AMD. If further trials are to be considered to evaluate radiotherapy in AMD then adequate masking of the control group must be considered.	Cochrane

Radiotherapy for patients with metastatic spinal cord disease	Sciubba DM, Petteys RJ, Dekutoski MB, et al. Diagnosis and management of metastatic spine disease. J Neurosurg Spine. Jul 2010;13(1):94-108.	USA	Advancements in surgical techniques of resection and spinal reconstruction, improvements in clinical outcomes following various treatment modalities, generally increased overall survival in patients with metastatic spine disease, and a recent randomized trial by Patchell and colleagues demonstrating the superiority of a combined surgical/radiotherapeutic approach over a radiotherapy-only strategy have led many to suggest increasingly aggressive interventions for patients with such lesions.	2C
Radiotherapy with the intention of preventing metastatic spinal cord compression (MSCC) in patients with asymptomatic spinal metastases	Patchell, R.A., Tibbs, P.A., Regine, W.F., Payne, R. (2005) Direct decompressive surgical resection in the treatment of spinal cord compression caused by metastatic cancer: a randomised trial, Lancet, 366:643–48	USA	Although useful for the pain of vertebral involvement by metastatic disease, radiotherapy does not abolish mechanical pain which may progress to bony instability, vertebral collapse and MSCC. Radiotherapy is occasionally used in patients with spinal metastases without pain with the aim of preventing MSCC but it is unclear whether this is effective.	NICE
Radiotherapy for patients with metastatic spinal cord compression (MSCC) and planned surgery.	NICE Guideline 75: Metastatic spinal cord compression: Diagnosis and management of patients at risk of or with metastatic spinal cord compression, 2008	UK	Patchell et al. (2005) reported a randomised trial evaluating the effectiveness of direct decompressive surgery plus post-operative radiotherapy compared to radiotherapy alone in patients with MSCC. Significantly more patients in the surgery group than in the radiotherapy group were ambulant after treatment. Patients treated with surgery also retained the ambulation significantly longer than did those with radiotherapy alone. The use of opioid analgesics was significantly reduced in the surgical group.	NICE

Postoperative radiotherapy for non-small cell lung cancer	Group, P. M.-a. T. (2005) Postoperative radiotherapy for non-small cell lung cancer. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD002142.pub2	UK	PORT is detrimental to patients with early stage completely resected non-small cell lung cancer due to significant adverse effects on survival and should not be used in the routine treatment of such patients. The role of PORT in the treatment of N2 tumours is not clear and may justify further research.	Cochrane
Complementary therapies for chronic fatigue syndrome/myalgic encephalomyelitis.	Turnbull N, Shaw EJ, Baker R, et al. (2007). Chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy): diagnosis and management of chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy) in adults and children. London: Royal College of General Practitioners.	UK	Trials of complementary therapies included studies on the effectiveness of homeopathy, massage therapy and osteopathy in treating CFS symptoms. While massage therapy and osteopathy appeared to improve measures of fatigue, back pain and sleep , the quality of all studies was very poor. As a result, NICE guidance suggests that complementary therapies for CFS should not be recommended.	NICE
Acupuncture, acupressure and hypnosis for women in labour.	NICE Guideline 55: Intrapartum care of healthy women and their babies during childbirth, 2007	UK	There is some evidence from small studies regarding the use of acupuncture, acupressure and hypnosis for the management of pain in labour. There is a lack of evidence on all other clinical outcomes. One systematic review (one RCT involving 56 women, Bishop score < 5, mixed parity) that assessed the effects of acupuncture in women undergoing induction at term found no meaningful data on the effectiveness of acupuncture as a cervical priming method, owing to methodological limitations and drop-	NICE

			out rates. The available evidence is insufficient to determine the effectiveness of acupuncture in cervical priming/induction of labour. In the absence of sufficient evidence that proves either effectiveness or harm, acupuncture as a method of induction is not recommended to be offered.	
Acupuncture for induction of labour.	Lee MK, Chang SB, Kang DH. Effects of SP6 acupressure on labor pain and length of delivery time in women during labor. Journal of Alternative and Complementary Medicine 2004;10(6):959–65.	Korea		NICE
Also: Ramnero A, Hanson U, Kihlgren M. Acupuncture treatment during labour--a randomised controlled trial. BJOG: an international journal of obstetrics & gynaecology 2002;109(6):637–44. (Sweden); Skilnand E, Fossen D, Heiberg E. Acupuncture in the management of pain in labor. Acta Obstetricia et Gynecologica Scandinavica 2002;81(10):943–8. (Norway); Nesheim BI, Kinge R, Berg B, et al. Acupuncture during labor can reduce the use of meperidine: a controlled clinical study. Clinical Journal of Pain 2003;19(3):187–91. (Norway); NICE Guideline 70: Induction of labour, 2008 (UK); Smith CA, Crowther CA. Acupuncture for induction of labour. Cochrane Database of Systematic Reviews 2004;(1):CD002962. (Australia).				
Acupuncture for uterine fibroids	Zhang, Y., W. Peng, et al. (2010) "Acupuncture for uterine fibroids." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD007221.pub2.	China	The effectiveness of acupuncture for the management of uterine fibroids remains uncertain. More evidence is required to establish the efficacy and safety of acupuncture for uterine fibroids. There is a continued need for well designed RCTs with long term follow up. ACUPUNCTURE FOR UTERINE FIBROIDS: There is no reliable proof of effectiveness of acupuncture for uterine fibroids due to lack of RCTs up to now.	Cochrane

Acupuncture for irritable bowel syndrome (IBS).	NICE Guideline 61: Irritable bowel syndrome in adults: Diagnosis and management of irritable bowel syndrome in primary care	UK	Two studies recorded the number of people with an improvement in global symptoms (Lowe2000, Forbes 2005). These two studies were combined in a meta-analysis of 109 participants, even though the studies used different types of sham acupuncture. There was no statistically significant difference between acupuncture and sham acupuncture. There is fair evidence to show no significant effect of acupuncture on IBS global symptoms, pain, and quality of life compared with placebo.	NICE
Also: Forbes A, Jackson S, Walter C, Quraishi S, Jacyna M, and Pitcher M (2005) Acupuncture for irritable bowel syndrome: a blinded placebo-controlled trial, World Journal of Gastroenterology, 11(26):4040-4. (UK).				
Acupuncture for the management of otitis media with effusion (OME).	NICE Guideline 60: Surgical management of otitis media with effusion in children, National Collaborating Centre for Women's and Children's Health, Commissioned by the National Institute for Health and Clinical Excellence February 2008	UK	No evidence was found investigating the use of acupuncture for treating Otitis Media (OME), therefore NICE recommends that acupuncture should not be used for the management of patient with OME.	NICE
Acupuncture for lower urinary tract symptoms (LUTS) in men.	NICE Guideline 97: The management of lower urinary tract symptoms in men, 2010	UK	The absence of data from studies makes it impossible to determine either benefits or harms from acupuncture or homeopathy in this population, therefore NICE recommends that acupuncture should not be used for treating lower urinary tract symptoms in men.	NICE

Acupuncture to treat hyperbilirubinaemia.	NICE Guideline 98: Neonatal jaundice, 2010		There is no evidence to support the use of acupuncture to treat hyperbilirubinaemia- NICE recommends that this treatment not be used in this population	NICE
Laser acupuncture for carpal tunnel syndrome	Health Technology Inquiry Service. Laser Acupuncture for Adults with Carpal Tunnel, Hand Spasticity, or Lower Back Pain: Clinical-Effectiveness. CADTH 2009.	Canada	Limited or no significant evidence to support the short term clinical effectiveness of laser acupuncture for the treatment of CTS in adults.	CADTH
	Goodyear-Smith F, Arroll B. What can family physicians offer patients with carpal tunnel syndrome other than surgery? A systematic review of nonsurgical management. Ann Fam Med 2004;2(3): 267-73.	New Zealand	Insufficient evidence to support the use of laser acupuncture for the treatment of CTS in adults. More rigorous studies are needed.	
	Also: O'Connor D, Marshall S, Massy-Westropp N. Non-surgical treatment (other than steroid injection) for carpal tunnel syndrome. Cochrane Database Sys Rev 2003;(1).			

Acupuncture for depression	Smith Caroline, A., P. J. Hay Phillipa, et al. (2010) "Acupuncture for depression." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD004046.pub3.	Australia	There was a high risk of bias in the majority of trials. There was insufficient evidence of a consistent beneficial effect from acupuncture compared with a wait list control or sham acupuncture control. Two trials found acupuncture may have an additive benefit when combined with medication compared with medication alone. A subgroup of participants with depression as a co-morbidity experienced a reduction in depression with manual acupuncture compared with SSRIs (RR 1.66, 95%CI 1.03, 2.68) (three trials, 94 participants). The majority of trials compared manual and electro acupuncture with medication and found no effect between groups. Thirty trials, and 2812 participants were included in the review and meta-analysis, however there was insufficient evidence that acupuncture can assist with the management of depression.	Cochrane
Acupuncture for peripheral joint osteoarthritis	Manheimer, E., K. Cheng, et al. (2010) "Acupuncture for peripheral joint osteoarthritis." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD001977.pub2.	USA	Sham-controlled trials show statistically significant benefits; however, these benefits are small, do not meet pre-defined thresholds for clinical relevance, and are probably due at least partially to placebo effects from incomplete blinding. Waiting list-controlled trials of acupuncture for peripheral joint osteoarthritis suggest statistically significant and clinically relevant benefits, much of which may be due to expectation or placebo effects.	Cochrane

Acupuncture for Bell's palsy	Chen, N., M. Zhou, et al. (2010) "Acupuncture for Bell's palsy." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD002914.pub5.	China	Six RCTs were included involving 537 participants with Bell's palsy. Two more possible trials were identified in the update than the previous version of this systematic review, but both were excluded because they were not real RCTs. Of the six included trials, five used acupuncture while the other one used acupuncture combined with drugs. No trial reported on the outcomes specified for this review. Harmful side effects were not reported in any of the trials. Poor quality caused by flaws in study design or reporting (including uncertain method of randomisation, allocation concealment and blinding) and clinical differences between trials prevented reliable conclusions about the efficacy of acupuncture. AUTHORS' CONCLUSIONS: The quality of the included trials was inadequate to allow any conclusion about the efficacy of acupuncture. More research with high quality trials is needed.	Cochrane

Chest physiotherapy as an adjunctive treatment for adults with pneumonia	Yang, M., Y. Yuping, et al. (2010) "Chest physiotherapy for pneumonia in adults." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD006338.pub2.	China	None of these techniques (versus no physiotherapy or placebo therapy) reduce mortality. Among three of the techniques (conventional chest physiotherapy, active cycle of breathing techniques and osteopathic manipulative treatment) there is no evidence to support a better cure rate in comparison with no physiotherapy or placebo therapy. Limited evidence indicates that positive expiratory pressure (versus no physiotherapy) and osteopathic manipulative treatment (versus placebo therapy) can slightly reduce the duration of hospital stay (by 2.02 and 1.4 days, respectively). In addition, positive expiratory pressure (versus no physiotherapy) can slightly reduce the duration of fever by 0.7 day, and osteopathic manipulative treatment (versus placebo therapy) might reduce the duration of antibiotic use by 1.93 days. No severe adverse events were found. In summary, chest physiotherapy should not be recommended as routine adjunctive treatment for pneumonia in adults.	Cochrane
Interventions for treating acute Achilles tendon ruptures	Khan Riaz, J. K., P. Fick Daniel, et al. (2009) "Interventions for treating acute Achilles tendon ruptures." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD003674.pub3.	Australia	Open operative treatment of acute Achilles tendon ruptures significantly reduces the risk of re-rupture compared to non-operative treatment, but produces a significantly higher risk of other complications, including wound infection. The latter may be reduced by performing surgery percutaneously. Post-operative splintage in a functional brace appears to reduce hospital stay, time off work and sports, and may lower the overall complication rate.	Cochrane

UVB therapy for vitiligo	Whitton Maxine, E., M. Pinart, et al. (2010) "Interventions for vitiligo." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD003263.pub4.	UK	Studies reported mixed treatment regimes. Most of the trials assessed combination treatments using ultraviolet light to enhance re-pigmentation. In general, combination studies reported better results. None of the trials reported long-term benefit (i.e. sustained re-pigmentation lasting at least two years). Results from this review should therefore be treated with caution. Some studies described adverse effects, in particular those using topical corticosteroids, but in the combination studies it was difficult to ascertain which treatment caused these effects. There is a great need for an extensive and well planned programme of research to establish the causes of vitiligo and to find effective ways to manage this disease.	Cochrane
Amnioinfusion for the treatment of women with meconium-stained liquor.	NICE Guideline 55: Intrapartum care of healthy women and their babies during childbirth, 2007	UK	Where there are facilities for EFM, FBS and advanced life support, there is no evidence that amnioinfusion for moderate to thick meconium staining improves neonatal outcomes or reduces CS, although there is high-level evidence that it reduces the rate of caesarian section due to fetal distress.	NICE
Also: Hofmeyr GJ. Amnioinfusion for meconium-stained liquor in labour. (Cochrane Review). In: Cochrane Database of Systematic Reviews, Issue 2, 2005. Oxford: Update Software. (South Africa).				

Electroconvulsive therapy (ECT) for people with moderate depression.	NICE Guidelines 90: Depression in Adults (update) Depression: the treatment and management of depression in adults, 2009	UK	Integrating the evidence for ECT with that for other treatments for depression it is evident that many people with depression have a poor response to treatment. In addition the definition of the severity of depression has altered between the previous guideline and this guideline update so that many patients previously defined as severely depressed would now be included in the moderate severity category. For this reason, while ECT is still not recommended as a routine treatment for moderately severe depression, it is presented as an option in those with moderate depression who have repeatedly not responded to both drug and psychological treatment.	NICE
Cystoscopy for men with uncomplicated lower urinary tract symptoms (LUTS).	NICE Guideline 97: The management of lower urinary tract symptoms in men, 2010	UK	The clinical benefit is that cystoscopy can allow diagnosis of the cause of LUTS in some men, and of other clinical problems. The harm associated with cystoscopy is discomfort, subsequent dysuria and bleeding, and the possibility of urinary tract infection or acute retention. No clinical or economic studies were found. NICE Recommendation: Do not routinely offer cystoscopy to men with uncomplicated lower urinary tract symptoms (LUTS) (that is, without evidence of bladder abnormality) at initial assessment.	NICE
Suprapubic urinary catheter	Niël-Weise Barbara, S. and J. van den Broek Peterhans (2005) Urinary catheter policies for short-term bladder drainage in adults. Cochrane Database of Systematic	Nether-lands	There was evidence that suprapubic catheters have advantages over indwelling catheters in respect of bacteriuria, recatheterisation and discomfort.	Cochrane

	Reviews DOI: 10.1002/14651858.CD004203.pub2			
Extracorporeal shock wave lithotripsy (ESWL) versus percutaneous nephrolithotomy (PCNL) or retrograde intrarenal surgery (RIRS) for kidney stones	Srisubat, A., S. Potisat, et al. (2009) "Extracorporeal shock wave lithotripsy (ESWL) versus percutaneous nephrolithotomy (PCNL) or retrograde intrarenal surgery (RIRS) for kidney stones." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD007044.pub2.	Thailand	MAIN RESULTS: Three studies (214 patients) were included, however results could not be pooled. Two RCTs compared ESWL to PCNL. The success rate at three months for lower pole kidney stones was statistically higher for PCNL (RR 0.39, 95% CI 0.27 to 0.56). Re-treatment (RR 1.81, 95% CI 0.66 to 4.99) and using auxiliary procedures (RR 9.06, 95% CI 1.20 to 68.64) after PCNL were less compared to ESWL. The efficiency quotient (EQ) in PCNL was higher than ESWL. Hospital stay (MD -3.30 days, 95% CI -5.45 to -1.15), duration of treatment (MD -36.00 minutes, 95% CI -54.10 to -17.90) and complications were less for ESWL. One RCT compared ESWL versus RIRS for lower pole kidney stones. The success rate was not significantly different at the end of the third month (RR 0.91, 95% CI 0.64 to 1.30). AUTHORS' CONCLUSIONS: Results from three small studies, with low methodological quality, indicated ESWL is less effective for lower pole kidney stones than PCNL but not significantly different from RIRS. Hospital stay and duration of treatment was less with ESWL. More RCTs are required to investigate the effectiveness and complications of ESWL for kidney stones compared to PCNL or RIRS.	Cochrane

Rubber band ligation versus excisional haemorrhoidectomy for haemorrhoids	Shanmugam, V., L. Campbell Ken, et al. (2005) Rubber band ligation versus excisional haemorrhoidectomy for haemorrhoids. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD005034.pub2	UK	Complete long-term remission of haemorrhoidal symptoms was better with surgical excisional than rubber band ligation for grade III haemorrhoids.	Cochrane
Rectal biopsy in suspected Hirschsprungs disease	NICE Guideline 99: Constipation in children and young people: diagnosis and management of idiopathic childhood constipation in primary and secondary care, 2010	UK	Rectal biopsy is primarily indicated to confirm or refute the diagnosis of Hirschsprung‘s disease (HD) in children with relevant clinical features. Many children are undergoing rectal biopsies which have been inappropriately requested from a clinical point of view. Parental pressure to establish a diagnosis, particularly when the child‘s symptoms do not improve with medical treatment, cannot be addressed by performing a rectal biopsy in children without clinical features of HD. There are clear features in a child‘s history that are good predictors of HD and that, if discovered, would increase the chances of a positive biopsy result. Clinicians should take time to elicit these features when taking a history and also make sure that there are no issues of treatment adherence that could explain why the child is not getting better. NICE Recommendation: Do not perform rectal biopsy unless any of the following clinical features of Hirschsprung s disease are or have been present: delayed passage of meconium (more than 48 hours after birth in term babies); constipation since first few weeks of life;	NICE

			chronic abdominal distension plus vomiting; family history of Hirschsprung s disease; faltering growth in addition to any of the previous features.	
Also: Lewis NA, Levitt MA, Zallen GS et al. Diagnosing Hirschsprung's disease: increasing the odds of a positive rectal biopsy result. Journal of Pediatric Surgery 2003; 38:(3)412-6. (USA); Pini-Prato A, Avanzini S, Gentilino V et al. Rectal suction biopsy in the workup of childhood chronic constipation: indications and diagnostic value. Pediatric Surgery International 2007; 23:(2)117-22 (Italy); Ghosh A and Griffiths DM. Rectal biopsy in the investigation of constipation. Archives of Disease in Childhood 1998; 79:(3)266-8 (UK).				
Needling for encapsulated trabeculectomy filtering blebs	Feyi-Waboso, A. and O.D. Ejere Henry (2004) Needling for encapsulated trabeculectomy filtering blebs. Cochrane Database of Systematic Reviews Volume, DOI: 10.1002/14651858.CD003658.pub2	UK	Evidence from one small trial suggests that needling of encapsulated trabeculectomy blebs is not better than medical treatment in reducing intraocular pressure. Only one needled bleb remained successful at the end of follow-up compared to 10 out of the 11 blebs managed conservatively	Cochrane
Occlusal adjustment for temporomandibular joint dysfunction	Health Technology Inquiry Service. Treatment for temporomandibular joint dysfunction: guidelines. CADTH 2010.	Canada	Occlusal adjustment and atherocentesis and lavage were reported as likely not effective.	CADTH
	List T, Axelsson S. Management of TMD: evidence from systematic reviews and meta-analyses. J Oral Rehabil. 2010 Apr 20.	Sweden	Occlusal adjustment has no effect on TMD pain	

Porcelain dental crowns	Health Technology Inquiry Service. Metal-Ceramic and Porcelain Dental Crowns: A Review of Clinical and Cost-Effectiveness. CADTH 2009.	Canada	The survival of metal-ceramic crowns was higher than porcelain crowns based on two retrospective observational studies. Porcelain crowns showed a higher wear rate than metal-ceramic crowns over a two year period based on a randomized controlled trial.	CADTH
Liver function tests - (Statin therapy)	Sniderman AD. Is there value in liver function test and creatine phosphokinase monitoring with statin use? Am J Cardiol. Nov 4 2004;94(9A):30F-34F.	Canada	Current screening for hepatic or skeletal muscle injury from statins do not benefit patients. They do generate enormous costs and concerns for patients.	Opportunistic
	Smith CC, Bernstein LI, Davis RB, Rind DM, Shmerling RH. Screening for statin-related toxicity: the yield of transaminase and creatine kinase measurements in a primary care setting. Arch Intern Med. Mar 24 2003;163(6):688-692.	USA	Statin therapy was not found to be associated with a significant increase in the incidence of raised creatine kinase. Incidence of myopathy was estimated at 11 per 100,000 person years and incidence of peripheral neuropathy was estimated at 12 per 100,000 person years.	NICE
Also: Cooper A, Nherera L, Calvert N, O'Flynn N, Turnbull N, Robson J, Camosso- Stefinovic J, Rule C, Browne N, Ritchie G, Stokes T, Mannan R, Brindle P, Gill P, Gujral R, Hogg M, Marshall T, Minhas R, Pavitt L, Reckless J, Rutherford A, Thorogood M, Wood D(2008) Clinical Guidelines and Evidence Review for Lipid Modification: cardiovascular risk assessment and the primary and secondary prevention of cardiovascular disease London: National Collaborating Centre for Primary Care and Royal College of General Practitioners. (UK); Law M, Rudnicka AR. Statin safety: a systematic review. Am J Cardiol. 2006; 97 (8A) :52C-60C. (UK).				
Troponin Tests for evaluation of heart	Meng QH, Zhu S, Booth C, et al. Impact of the Cardiac	Canada	The reduction of unnecessary tests as a result of introducing the authors algorithm improved patient care	Opportunistic

attack/ heart injury	Troponon Testing Algorithm on Excessive and Inappropriate Troponin Test Requests. Am J Clin Path. 2006;126:195-199		by reducing their stay and reduces labor costs and cost to patient, without adversely affecting patient outcomes	
	Reed MJ, Newby DE, Coull AJ, Prescott RJ, Gray AJ. Diagnostic and prognostic utility of troponin estimation in patients presenting with syncope: a prospective cohort study. Emergency Medicine Journal. April 1, 2010; ;27::272-276.	UK	Troponin I provides little additional benefit to ECG in identifying patients with syncope due to AMI in the ED. Troponin I should not be used to rule out AMI in patients presenting with syncope.	Opportunistic
C-Reactive Protein Tests	van der Meer V, Neven AK, Broek PJvd, Assendelft WJJ. Diagnostic value of C reactive protein in infections of the lower respiratory tract: systematic review. BMJ. June 24, 2005 2005:bmj.38483.478183.EB.	Nether-lands	The CRP test is insufficiently sensitive or specific to rule in or out pneumonia. The poor quality of methodology in diagnostic studies prevents consistent evidence and the support of use of CRPs to guide antibiotic prescription.	Opportunistic
	Falk G, Fahey T. C-reactive protein and community-acquired pneumonia in ambulatory care: systematic review of diagnostic accuracy studies. Fam Pract. Feb	Ireland	In primary care additional CRP testing is unlikely to change the probability of CAP and management decisions	2A, opportunistic

	2009;26(1):10-21.			
	NICE Guideline 54: Urinary tract infection in children diagnosis, treatment and long-term management, 2007	UK	One study evaluated three laboratory-based blood tests (peripheral WBC, erythrocyte sedimentation rate (ESR) and C-reactive proteins) in which all were found to be poor tests for diagnosing urinary tract infections (UTI).	NICE
Routine screening for preterm labour	NICE Guideline 62, Antenatal care routine care for the healthy pregnant woman, 2008	UK	Positive and negative results of MSAFP at 15–20 weeks seem to have poor predictive accuracy for SPTB, although the evidence is limited.	NICE
	Sakai M, Sasaki Y, Yoneda S, et al. Elevated interleukin-8 in cervical mucus as an indicator for treatment to prevent premature birth and preterm, pre-labor rupture of membranes: a prospective study. American Journal of Reproductive Immunology 2004;51(3):220–5.	Japan	A positive test for a second-trimester MSHCG is more useful in predicting SPTB < 32 weeks than a negative test in ruling it out, but the evidence is poor. The screening performance of a first trimester MSHCG test is poor.	
	Sakai M, Ishiyama A, Tabata M, et al. Relationship between cervical mucus interleukin-8 concentrations and vaginal bacteria in pregnancy. American Journal of Reproductive Immunology	Japan	There is a lack of good-quality studies on the diagnostic value of maternal serum CRP levels. Evidence from level III studies shows that positive and negative results of maternal serum CRP have poor predictive accuracy for SPTB < 37 weeks.	

	2004;52(2):106–12.			
Also: Simpson JL, Palomaki GE, Mercer B, et al. Associations between adverse perinatal outcome and serially obtained second- and third-trimester maternal serum alpha-fetoprotein measurements. American Journal of Obstetrics and Gynecology 1995;173(6):1742–8. (USA); Dugoff L, Hobbins JC, Malone FD, et al. Quad screen as a predictor of adverse pregnancy outcome. Obstetrics and Gynecology 2005;106(2):260–7. (USA); Morssink LP, Kornman LH, Beekhuis JR, et al. Abnormal levels of maternal serum human chorionic gonadotropin and alpha-fetoprotein in the second trimester: relation to fetal weight and preterm delivery. [see comment]. Prenatal Diagnosis 1995;15(11):1041–6. (Netherlands); Hvilsom GB, Thorsen P, Jeune B, et al. C-reactive protein: a serological marker for preterm delivery? Acta Obstetricia et Gynecologica Scandinavica 2002;81(5):424–9. (Denmark); Karinen L, Pouta A, Bloigu A, et al. Serum C-reactive protein and Chlamydia trachomatis antibodies in preterm delivery. Obstetrics and Gynecology 2005;106(1):73–80. (Finland).				
Biochemical tests of placental function for assessment in pregnancy	Neilson James, P. (2003) "Biochemical tests of placental function for assessment in pregnancy." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD000108.	UK	A single eligible trial of poor quality was identified. It involved 622 women with high-risk pregnancies who had had plasma (o)estriol estimations. Women were allocated to have their (o)estriol results revealed or concealed on the basis of hospital record number (with attendant risk of selection bias). There were no obvious differences in perinatal mortality (relative risk (RR) 0.88, 95% confidence interval (CI) 0.36 to 2.13) or planned delivery (RR 0.97, 95% CI 0.81 to 1.15) between the two groups. AUTHORS' CONCLUSIONS: The available trial data do not support the use of (o)estriol estimation in high-risk pregnancies. The single small trial available does not have the power to exclude a beneficial effect but this is probably of historical interest since biochemical testing has been superseded by biophysical testing in antepartum fetal assessment.	Cochrane
Routine blood tests in children with fever	van Rossum AM, Wulkan RW, Oudesluys-Murphy AM. Procalcitonin as an early marker of infection in	UK	Tests such as CRP, PCT and WBC do not improve the detection of SBI in children with fever who have no signs of serious illness. The ranges of performance of ANC in identifying SBI were reported as sensitivity 50–71%,	NICE

	neonates and children. Lancet Infectious Diseases 2004;4(10):620–30.		specificity 76–83% and RR 1.5–6.4.	
Also: Pulliam PN, Attia MW, Cronan KM. C-reactive protein in febrile children 1 to 36 months of age with clinically undetectable serious bacterial infection. Pediatrics 2001;108(6):1275–9. (USA).				
Blood biochemical testing in children with dehydration	NICE Guideline 84: Diarrhoea and vomiting diagnosis, assessment and management in children younger than 5 years, 2009	UK	There is a lack of satisfactory evidence with regard to the incidence of clinically important biochemical disturbances in children with gastroenteritis in the UK. In studies of large populations of children with gastroenteritis in the UK, the incidence of hypernatraemia was 1% or less, and those populations included children with severe dehydration. Increased plasma bicarbonate levels were significantly associated with dehydration but the practical usefulness of bicarbonate estimation to detect dehydration was unclear. Studies on the potential value of other blood and urine investigations for the detection of dehydration also failed to provide evidence in support of their use.	NICE
Genetic testing of Fragile X Syndrome - population screen	Anido, A., L. M. Carlson, et al. (2005). "Women's attitudes toward testing for fragile X carrier status: a qualitative analysis." J Genet Couns 14(4): 295-306.	US	It was found that there was a lack of relevance of carrier status to the study group. General population women may not recognize the immediate importance of their carrier status even when literature is provided and discussed prior to testing. Genetic counselors should be mindful of this and should identify reproductive life stage in women receiving information regarding Fragile X status.	Opportunistic

Factor V Leiden, Thrombophilia Genetic Mutations	Middeldorp S, Meinardi JR, Koopman MMW, et al. A Prospective Study of Asymptomatic Carriers of the Factor V Leiden Mutation To Determine the Incidence of Venous Thromboembolism. Annals of Internal Medicine. September 4, 2001 2001;135(5):322-327.	Netherlands	Incidence of spontaneous venous thromboembolism in asymptomatic carriers is low and does not justify routine screening of the families of symptomatic families	Opportunistic
	Segal JB, Brotman DJ, Necochea AJ, et al. Predictive value of factor V Leiden and prothrombin G20210A in adults with venous thromboembolism and in family members of those with a mutation: a systematic review. JAMA. Jun 17 2009;301(23):2472-2485.	USA	Patients with FVL are at increased risk of recurrent VTE compared with patients with VTE without this mutation. However, it is unknown whether testing for FVL or prothrombin G20210A improves outcomes in adults with VTE or in family members of those with a mutation.	2A
	Segal JB, Brotman DJ, Emadi A, et al. Outcomes of genetic testing in adults with a history of venous thromboembolism. Evid Rep Technol Assess (Full Rep). Jun 2009(180):1-162.	USA	There is no direct evidence that testing for these mutations leads to improved clinical outcomes in adults with a history of VTE or their adult family members. The literature supports the conclusion that while these assays have high analytic validity, the test results have variable clinical validity for predicting VTE in these populations and have only weak clinical utility.	2C

Testing for diarrhoea in children	Abba K, Sinfield R, Hart CA, Garner P. Pathogens associated with persistent diarrhoea in children in low and middle income countries: systematic review. BMC Infect Dis. 2009;9:88.	UK	A number of pathogens are commonly associated with persistent diarrhoea in children but are also found in similar frequencies in children without diarrhoea, making their utility in diarrhoea investigations questionable.	2A
Preimplantation genetic screening for aneulploidy	Checa MA, Alonso-Coello P, Sola I, et al. IVF/ICSI with or without preimplantation genetic screening for aneuploidy in couples without genetic disorders: a systematic review and meta-analysis. J Assist Reprod Genet. May 2009;26(5):273-283.	Netherlands	Preimplantation genetic screening for aneuploidy is not associated with increased birth rates for couples without known genetic disorders and does not appear justified.	2A
Mortality markers in end stage renal disease	Desai, A. A., A. Nissenson, et al. (2009). "The relationship between laboratory-based outcome measures and mortality in end-stage renal disease: a systematic review." Hemodial Int 13(3): 347-359.	Canada	Nine out of 44 laboratory-based outcome measures were found to be predictors of mortality. Calcium phosphate product and parathyroid hormone were not significantly associated with mortality in end stage renal patients.	2A

Measurement of calcium levels in people with stage 1, 2, 3A or 3B chronic kidney disease (CKD).	NICE Guideline 73: National Collaborating Centre for Chronic Conditions. Chronic kidney disease: national clinical guideline for early identification and management in adults in primary and secondary care. London: Royal College of Physicians, September 2008.	UK	Five studies showed that serum calcium levels decreased only in advanced renal disease. Although there were statistically significant differences in mean calcium concentrations at different levels of GFR these were unlikely to be clinically significant differences. There was no need to routinely measure serum calcium concentrations in people with stage 1, 2 and 3A CKD and that it was not usually necessary to measure it in people with stage 3B CKD.	NICE
Measurement of phosphate levels in people with stage 1, 2, 3A or 3B chronic kidney disease (CKD).	LaClair RE, Hellman RN, Karp SL et al. Prevalence of calcidiol deficiency in CKD: a cross-sectional study across latitudes in the United States. American Journal of Kidney Diseases. 2005; 45(6):1026–1033.	USA	Five studies showed that serum phosphate levels increased with advanced renal disease. Three of these studies showed that abnormal phosphate levels were highly prevalent when eGFR was <20 ml/min. There were statistically significant differences in mean phosphate concentrations at different levels of GFR, however these values were all within the normal range. Serum phosphate concentrations generally fell within the normal range unless the GFR level was below 20 ml/min/1.73 m2. There was no need to routinely measure serum phosphate concentrations in people with stage 1, 2 and 3A CKD and that it was not usually necessary to measure it in people with stage 3B CKD.	NICE
Measurement of parathyroid hormone (PTH) levels in people with stage 1, 2, 3A or 3B chronic kidney	Craver L, Marco MP, Martinez I et al. Mineral metabolism parameters throughout chronic kidney disease stages 1–5 – Achievement of K/DOQI	Spain	The prevalence of hyperparathyroidism in people with a reduced GFR was higher than in healthy individuals; however, the significance of modestly elevated PTH concentrations was thought unclear and there was no consensus on whether people with concentrations	NICE

disease (CKD).	target ranges. Nephrology Dialysis and Transplantation. 2007; 22(4):1171–1176.		elevated to this extent benefit from treatment. On the basis of the evidence the GDG agreed that there was no requirement to routinely measure serum PTH concentrations in people with stage 1, 2 and 3A CKD and that it was not usually necessary to measure it in people with stage 3B CKD in the absence of specific indications. Specific indications to measure serum PTH would include unexplained hypercalcaemia and symptoms suggestive of hyperparathyroidism.	
The routine measurement of vitamin D levels in people with stage 1, 2, 3A or 3B chronic kidney disease (CKD) is not recommended.	Levin A, Bakris GL, Molitch M et al. Prevalence of abnormal serum vitamin D, PTH, calcium, and phosphorus in patients with chronic kidney disease: results of the study to evaluate early kidney disease. Kidney International. 2007; 71(1):31–38	Canada	The prevalence of abnormally low vitamin D concentrations increased once the GFR fell below 45 ml/min/1.73 m2;328 however, there was no information in this study on the prevalence of low vitamin D concentrations in the general population. Most laboratories do not measure 1,25 dihydroxyvitamin D concentrations. On the basis of the evidence the GDG agreed that there was no need to routinely measure serum vitamin D concentrations in people with stage 1, 2 and 3A CKD and that it was not usually necessary to measure it in people with stage 3B CKD except where there are specific indications such as unexplained hypocalcaemia or symptoms suggestive of vitamin D deficiency.	NICE
Also: St John A., Thomas MB, Davies CP et al. Determinants of intact parathyroid hormone and free 1,25- dihydroxyvitamin D levels in mild and moderate renal failure. Nephron. 1992; 61(4):422–427 (Australia); Hsu CY, Chertow GM. Elevations of serum phosphorus and potassium in mild to moderate chronic renal insufficiency. Nephrology Dialysis and Transplantation. 2002; 17(8):1419–1425. (UK).				

Troponin levels in acute pulmonary embolism patients	Jimenez, D., F. Uresandi, et al. (2009). "Troponin-based risk stratification of patients with acute nonmassive pulmonary embolism: systematic review and meta analysis." Chest 136(4): 974-982.	US	Elevated troponin levels in normotensive acute pulmonary embolism patients do not discern those at low risk of death from those at high risk.	2A
Chlamydia screening in under 25 yr olds	Low, N., N. Bender, et al. (2009). "Effectiveness of chlamydia screening: systematic review." Int J Epidemiol 38(2): 435-448.	UK	There is no evidence to support opportunistic chlamydia screening in the general population under 25 years old.	2A
Chlamydia screening in routine antenatal care.	NICE Guideline 62, Antenatal care routine care for the healthy pregnant woman, 2008	UK	There is no good-quality evidence which would support routine antenatal screening for genital chlamydia. Asymptomatic chlamydia infection during pregnancy has been associated with adverse outcomes of pregnancy (LBW, preterm delivery, PROM) and neonatal morbidities (respiratory tract infection and conjunctivitis). However, a causal link between the organism and adverse outcomes of pregnancy has not been established and the evidence remains difficult to evaluate in relation to neonatal morbidities. Where a causal link between organism and outcome has been established, rapid identification and good management of affected neonates is thought to be a clinical and cost-effective alternative to screening.	NICE

Nucleic acid amplification tests for diagnosis of Neisseria gonorrhea and Chlamydia trachomatis rectal infections	Smith JW, Rogers RE, Katz BP, et al. Diagnosis of chlamydial infection in women attending antenatal and gynecologic clinics. Journal of Clinical Microbiology 1987;25(5):868–72.	USA	Over 60% and 80% of gonococcal and chlamydial infections, respectively, among men who have sex with men and over 20% of chlamydial infections in women would have been missed if the rectal site had not been tested. Currently available NAATs are more sensitive for the detection of chlamydial and gonococcal infection at the rectal site than is culture.	2B
Also: Baselski VS, McNeeley SG, Ryan. A comparison of nonculture-dependent methods for detection of Chlamydia trachomatis infections in pregnant women. Obstetrics and Gynecology 1987;70(1):47–52. (USA); Stamm WE, Harrison HR, Alexander ER, et al. Diagnosis of Chlamydia trachomatis infections by direct immunofluorescence staining of genital secretions. A multicenter trial. Annals of Internal Medicine 1984;101(5):638–41. (USA); Garland SM, Tabrizi S, Hallo J, Chen S. Assessment of Chlamydia trachomatis prevalence by PCR and LCR in women presenting for termination of pregnancy. Sexually Transmitted Infections 2000;76(3):173–6. (Australia); Andrews WW, Lee HH, Roden WJ, et al. Detection of genitourinary tract Chlamydia trachomatis infection in pregnant women by ligase chain reaction assay. Obstetrics and Gynecology 1997;89(4):556–60. (USA); Thejls H, Gnarpe J, Gnarpe H, et al. Expanded gold standard in the diagnosis of Chlamydia trachomatis in a low prevalence population: diagnostic efficacy of tissue culture, direct immunofluorescence, enzyme immunoassay, PCR and serology. Genitourinary Medicine 1994;70(5):300–3. (Sweden); Bachmann, L.H., et al., Nucleic acid amplification tests for diagnosis of Neisseria gonorrhoeae and Chlamydia trachomatis rectal infections. J Clin Microbiol, 2010. 48(5): p. 1827-32. (USA).			
Urinary protein measurement in pregnant women as a predictor of complications of pre-eclampsia	Thangaratinam S, Coomarasamy A, O'Mahony F, et al. Estimation of proteinuria as a predictor of complications of pre-eclampsia: a systematic review. BMC Med. 2009;7:10.	UK	All 10 studies predicting maternal outcomes showed that proteinuria is a poor predictor of maternal complications in women with pre-eclampsia. Seventeen studies used laboratory analysis and eight studies bedside analysis to assess the accuracy of proteinuria in predicting fetal and neonatal complications. Summary likelihood ratios of positive and negative tests for the threshold level of 5 g/24 h were 2.0 (95% CI 1.5, 2.7) and 0.53 (95% CI 0.27, 1) for stillbirths, 1.5 (95% CI 0.94, 2.4) and 0.73 (95% CI 0.39, 1.4) for neonatal deaths and 1.5 (95% 1, 2) and 0.78 (95%	2A

			0.64, 0.95) for Neonatal Intensive Care Unit admission.	
Inflammatory markers for prediction of recurrent stroke	Whiteley W, Jackson C, Lewis S, et al. Inflammatory markers and poor outcome after stroke: a prospective cohort study and systematic review of interleukin-6. PLoS Med. Sep 2009;6(9):e1000145.	UK	Raised levels of markers of the acute inflammatory response after stroke are associated with poor outcomes. However, the addition of these markers to a previously validated stroke prognostic model did not improve the prediction of poor outcome. Whether inflammatory markers are useful in prediction of recurrent stroke or other vascular events is a separate question, which requires further study.	2A
Measurement of alfa-fetoprotein in alpha-fetoprotein-producing gastric cancers	Inoue M, Sano T, Kuchiba A, Taniguchi H, Fukagawa T, Katai H. Long-term results of gastrectomy for alpha-fetoprotein-producing gastric cancer. Br J Surg. Jul 2010;97(7):1056-1061	Japan	Preoperative serum AFP levels showed no correlation with tumour size, depth of invasion, disease stage or survival. Postoperative serum AFP level can help predict recurrence but a normal level does not mean absence of recurrence.	2C
Serum Ferritin Tests in women with heavy menstrual bleeding	NICE clinical guideline 44: Heavy menstrual bleeding, 2007	UK	One review showed that serum ferritin testing is the most accurate method for confirming iron-deficiency anaemia, with a likelihood ratio of a positive test of 51.85. However, there was no evidence that serum ferritin tests provided any more clinical information than a full blood count in relation to Heavy Menstrual Bleeding (HMB).	NICE
Also: Guyatt GH, Oxman AD, Ali M, et al. Laboratory diagnosis of iron-deficiency anemia: an overview. Journal of General Internal Medicine 1992;7(2):145–53.				

Serum ferritin tests in adults (in patients with Chronic Fatigue Syndrome)	Turnbull N, Shaw EJ, Baker R, et al. (2007). Chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy): diagnosis and management of chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy) in adults and children. London: Royal College of General Practitioners.	UK	The NICE panel's decision was that this was not a positive diagnostic tool. Tests for serum ferritin in adults should not be carried out unless a full blood count and other haematological indices suggest iron deficiency (in patients with Chronic Fatigue Syndrome)	NICE
Female hormone testing in women with heavy menstrual bleeding (HMB).	NICE clinical guideline 44: Heavy menstrual bleeding, 2007	UK	Epidemiological studies have found no link between hormone levels and heavy menstrual bleeding No studies were found on hormone testing for menorrhagia. Female hormone testing should not be carried out on women with heavy menstrual bleeding (HMB).	NICE
Also: Eldred JM, Thomas EJ. Pituitary and ovarian hormone levels in unexplained menorrhagia. Obstetrics and Gynecology 1994;84(5): 775–8. (UK); Haynes PJ, Anderson ABM, Turnbull AC. Patterns of menstrual blood loss in menorrhagia. Research and Clinical Forums 1979;1(2): 73–8.				
Saline infusion sonography as a first-line diagnostic tool.	Farquhar C, Ekeroma A, Furness S, et al. A systematic review of transvaginal ultrasonography, sonohysterography and hysteroscopy for the investigation of abnormal uterine bleeding in premenopausal women. Acta	New Zealand	The Economic modeling for this guideline showed that ultrasound alone is more accurate (specificity was 62–93%) and less costly than the other imaging methods examined (hysteroscopy and saline infusion sonography).	NICE

	Obstetricia et Gynecologica Scandinavica 2003;82(6):493–504.			
Also: De Kroon CD, de Bock GH, Dieben SW, et al. Saline contrast hysterosonography in abnormal uterine bleeding: a systematic review and meta-analysis. BJOG: an International Journal of Obstetrics and Gynaecology 2003; 110:(10)938–47. (Netherlands).				
Tests for vitamin B12 deficiency in patients with Chronic Fatigue Syndrome	Turnbull N, Shaw EJ, Baker R, et al. (2007). Chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy): diagnosis and management of chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy) in adults and children. London: Royal College of General Practitioners.	UK	Many laboratories will not carry out investigations for B12 unless it is indicated by full blood count (FBC) and mean cell volume (MCV) results. A British panel rated the use of this test as 'uncertain' but patients and carers 'agreed' that this test was appropriate. The Panel decided that this test should only be carried out if the results of the FBC and MCV suggest the presence of macrocytosis.	NICE
Tests for folate levels in patients with Chronic Fatigue Syndrome	Turnbull N, Shaw EJ, Baker R, et al. (2007). Chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy): diagnosis and management of chronic fatigue syndrome/myalgic encephalomyelitis (or	UK	No specific reference made to folate tests in the guidance other that stated under 'Technology and Indication'. NICE recommendation that folate tests should only be performed if macrocytosis has been found on a full blood examination.	NICE

	encephalopathy) in adults and children. London: Royal College of General Practitioners.			
Screening for gestational diabetes using fasting plasma glucose, random blood glucose, glucose challenge test and urinalysis for glucose.	NICE Guideline 62, Antenatal care routine care for the healthy pregnant woman, 2008	UK	Four studies in which a diagnostic test (fasting plasma glucose, random blood glucose, glucose challenge test and urinalysis for glucose) was performed on all participants showed sensitivities of 79.8%, 59%, 59% and 78.9% and specificities of 42.7%, 91%, 92%, and 87.2%, respectively. The PPVs were 24.5%, not reported, 32% and 13.8%, respectively.	NICE
	Perucchini D, Fischer U, Spinas GA, et al. Using fasting plasma glucose concentrations to screen for gestational diabetes mellitus: prospective population based study. British Medical Journal 1999;319:812–5.	Switzerland	The Brazilian study showed that for the detection of gestational diabetes an FPG of 4.94 mmol/litre (89 mg/100 ml) jointly maximises sensitivity (88%) and specificity (78%), identifying 22% of the women as test-positive. The Swedish study found that 1.52% (55/3616) of women were diagnosed before 34 weeks of gestation. For cFBG cut-off values between 4.0 and 5.0 mmol/litre, the sensitivity ranged between 87% and 47% and specificity between 51% and 96%.	

Also: Seshiah V, Balaji V, Balaji MS, et al. Gestational diabetes mellitus in India. Journal of the Association of Physicians of India 2004; 52:707–11. (India); Cetin M, Cetin A. Time-dependent gestational diabetes screening values. International Journal of Gynaecology and Obstetrics 1997;56(3):257–61. (Turkey); O'Sullivan JB, Mahan CM, Charles D, et al. Screening criteria for high-risk gestational diabetic patients. American Journal of Obstetrics and Gynecology 1973;116(7):895–900. Fadl H, Ostlund I, Nilsson K, et al. Fasting capillary glucose as a screening test for gestational diabetes mellitus. BJOG: an International Journal of Obstetrics and Gynaecology 2006;113(9):1067–71. (Sweden); Reichelt AJ, Spichler ER, Branchtein L, Nucci LB, Franco LJ, Schmidt MI. Fasting plasma glucose is a useful test for the detection of gestational diabetes. Brazilian Study of Gestational Diabetes (EBDG) Working Group. Diabetes Care 1998;21:1246–9. (Brazil).				
Serum cholesterol concentrations in pregnancy.	DeMott K, Nherera L, Shaw EJ, et al. Clinical Guidelines and Evidence Review for Familial hypercholesterolaemia: the identification and management of adults and children with familial hypercholesterolaemia. 2008. London: National Collaborating Centre for Primary Care and Royal College of General Practitioners.	UK	Serum cholesterol concentrations should not be monitored during pregnancy as there are physiological changes in LDL-C during pregnancy, and these cannot be treated pharmacologically. Routine monitoring of LDL-C concentration are therefore not recommended, but may be needed in specific instances.	NICE
Screening for hepatitis C virus in pregnant women.	NICE Guideline 62, Antenatal care routine care for the healthy pregnant woman, 2008	UK	Based on estimates from other European countries, the risk of mother-to-child transmission in the UK is estimated to lie between 3% and 5%. Another study estimated that 70 births each year are infected with HCV as a result of mother-to-child transmission in the UK, which represents an overall antenatal prevalence of 0.16% (95% CI 0.09 to 0.25). In the UK, these figures suggested that routine	NICE

			testing of expectant mothers was not effective or cost effective.	
Also: Whittle M, Peckham C, Anionwu E, et al. Antenatal screening for hepatitis C. Working party report on screening for hepatitis C in the UK. January 2002. [www.nelh.nhs.uk/screening/antenatal_pps/Hep_C_NSC.pdf] Accessed 4 September 2003. 398. (UK); Ades AE, Parker S, Walker J, Cubitt WD, Jones R. HCV prevalence in pregnant women in the UK. Epidemiology and Infection 2000;125:399–405. (UK).				
Microscopy for testing for the presence of haematuria	NICE Guideline 73: National Collaborating Centre for Chronic Conditions. Chronic kidney disease: national clinical guideline for early identification and management in adults in primary and secondary care. London: Royal College of Physicians, September 2008.	UK	Unless performed using phase contrast microscopy on a sample that has been received promptly, laboratory assessment of haematuria is less accurate than reagent strip testing because of cell lysis during transport to the laboratory and inaccuracies in quantifying the red blood cells present.	NICE
Also: Chan RWY, Chow KM, Tam LS et al. Can the urine dipstick test reduce the need for microscopy for assessment of systemic lupus erythematosus disease activity? Journal of Rheumatology. 2005; 32(5): 828–831. (China); Chandhoke PS, McAninch JW. Detection and significance of microscopic hematuria in patients with blunt renal trauma. Journal of Urology. 1988; 140(1):16–18. (USA); Gleeson MJ, Connolly J, Grainger R et al. Comparison of reagent strip (dipstick) and microscopic haematuria in urological out-patients. British Journal of Urology. 1993; 72(5:Pt 1):594–596. (Ireland); Arm JP, Peile EB, Rainford DJ et al. Significance of dipstick haematuria. 1. Correlation with microscopy of the urine. British Journal of Urology. 1986; 58(2):211–217.				

Immunoglobulin G (IgG) anti-gliadin antibody (AGA) test in the diagnosis of coeliac disease. Immunoglobulin A (IgA) anti-gliadin antibody (AGA) test in the diagnosis of coeliac disease.	NICE Guideline 86: Coeliac disease- Recognition and assessment of coeliac disease, 2009	UK	Gliadin antibody serological tests show lower levels of sensitivity and specificity than tTGA and EMA. It was therefore agreed to recommend that gliadin-based tests are not used.	NICE
Human leukocyte antigen (HLA) DQ2/DQ8 testing in the initial diagnosis of coeliac disease.	NICE Guideline 86: Coeliac disease- Recognition and assessment of coeliac disease, 2009	UK	HLA DQ2 or DQ8 is present in approximately 25% of the UK population so a positive test has no predictive value, but a negative test can exclude a diagnosis of coeliac disease. NICE Recommendation: Do not use human leukocyte antigen (HLA) DQ2/DQ8 testing in the initial diagnosis of coeliac disease. (However, its high negative predictive value may be of use to gastrointestinal specialists in specific clinical situations.)	NICE
Also: Agency for Healthcare Research and Quality (2004) Evidence Report/Technology Assessment No. 104 Celiac Disease. AHRQ Publication No. 04-E029-2 (USA)				
Measurement of bilirubin levels in babies who are not visibly jaundiced.	NICE Guideline 98: Neonatal jaundice, 2010	UK	Visible jaundice in the first 24 hours remains an important predictor of later clinically important hyperbilirubinaemia. Any visible or suspected jaundice in the first 24 hours requires urgent medical review (within 2 hours), which must include serum bilirubin measurement and an investigation of the underlying causes. NICE Recommendation: Do not measure bilirubin levels	NICE

			routinely in babies who are not visibly jaundiced.	
Also: Kramer LI. Advancement of dermal icterus in the jaundiced newborn. American Journal of Diseases of Children 1969; 118:(3)454- 8.				
Umbilical cord blood direct antiglobulin test (DAT) (Coombs' test) to predict significant hyperbilirubinaemia.	NICE Guideline 98: Neonatal jaundice, 2010	UK	Routine DAT (Coombs') testing on umbilical cord blood does not accurately predict subsequent hyperbilirubinaemia in healthy newborns. Each study compared DAT with varying threshold levels of bilirubin. In the EL II study the DAT test showed a sensitivity of 8.5% and specificity of 97.6% in detecting haemolysis. Similar levels of sensitivity and specificity in predicting subsequent hyperbilirubinaemia were found in three of the other four EL III studies. Sensitivity ranged from 14.4% to 44.8% and specificity from 95.8% to 100%. The fourth EL III study showed a sensitivity of 92.3% and specificity of 75.6%.	NICE
Also: Meberg A and Johansen KB. Screening for neonatal hyperbilirubinaemia and ABO alloimmunization at the time of testing for phenylketonuria and congenital hypothyreosis. Acta Paediatrica 1998; 87:(12)1269-74. (Norway); Sarici SU, Yurdakok M, Serdar MA et al. An early (sixth-hour) serum bilirubin measurement is useful in predicting the development of significant hyperbilirubinemia and severe ABO hemolytic disease in a selective high-risk population of newborns with ABO incompatibility. Pediatrics 2002; 109:(4)e53 (Turkey); Chen JY and Ling UP. Prediction of the development of neonatal hyperbilirubinemia in ABO incompatibility. Chung Hua i Hsueh Tsa Chih - Chinese Medical Journal 1994; 53:(1)13-8. (Taiwan); Herschel M, Karrison T, Wen M et al. Evaluation of the direct antiglobulin (Coombs') test for identifying newborns at risk for hemolysis as determined by end-tidal carbon monoxide concentration (ETCOc); and comparison of the Coombs' test with ETCOc for detecting significant jaundice. Journal of Perinatology 2002; 22:(5)341-7. (USA); Risemberg HM, Mazzi E, MacDonald MG et al. Correlation of cord bilirubin levels with hyperbilirubinaemia in ABO incompatibility. Archives of Disease in Childhood 1977; 52:(3)219-22. (USA).				

Urine testing in infants and children for urinary tract infection (UTI).	NICE Guideline 54: Urinary tract infection in children diagnosis, treatment and long-term management, 2007	UK	It is clear that leucocyte esterase and nitrite dipsticks are more valuable in diagnosing UTI when used in combination than when used alone. There is general agreement among studies that a combination of a positive leucocyte esterase with positive nitrite has the highest LR+ and is the most useful dipstick test for ruling in UTI. However, a negative result for either leucocyte esterase or nitrite has the highest LR− and will be most useful in excluding UTI. It is important to note that in children younger than 2 years the dipsticks are less reliable in both scenarios. Infants and children who are asymptomatic following an episode of urinary tract infection (UTI) should not routinely have their urine re-tested for infection.	NICE
Frequent monitoring HbA1C levels in adults with diabetes	Health Technology Inquiry Service. Frequency of Monitoring Hemoglobin A1C Levels in Adults with Type 2 Diabetes: Evidence-Based Guidelines and Clinical Effectiveness. CADTH 2010	Canada	Two of the guidelines suggest that once effective treatment has been established and glucose levels are stable, HbA1C measurement can be recorded every six months.	CADTH
Uro4 HB&L system for the rapid diagnosis of lower respiratory tract infections in intensive care units	Andrea, T., et al., Evaluation of the Uro4 HB&L system for the rapid diagnosis of lower respiratory tract infections in intensive care units. J Microbiol Methods, 2010. 81(3): p. 235-9.	Italy	The Uro4 HB&L system, compared to the standard culture method, revealed a very high sensitivity and a full specificity in identifying clinically relevant microorganisms from lower respiratory tract samples after merely 6h.	2B

Chest xray for diagnosis of acute coronary syndrome	Ng JJL, Taylor DM. Routine chest radiography in uncomplicated suspected acute coronary syndrome rarely yields significant pathology. Emergency Medicine Journal. December 1, 2008; 2008;25::807-810.	Australia	In emergency patients suspected of acute coronary syndrome but without other symptoms, signs or pathology, chest xray gave low yield of unexpected pathology and its need is questionable in this group.	Opportunistic
Preoperative Chest Xray	Health Technology Inquiry Service. Routine pre-operative chext-xray. CADTH, 2010.	Canada	Pre-operative chest x-rays result in few changes to patient management.	CADTH
	Joo HS, Wong J, Naik VN, Savoldelli GL. The value of screening preoperative chest x-rays: a systematic review. Can J Anaesth. 2005 Jun;52(6):568-74.	Canada	Due to the low prevalence of abnormalities detected in patients under 70 years of age, routine pre-operative chest x-rays are not necessary for this population in the absence of risk factors.	CADTH

Chest radiograph in acute respiratory infections	Swingler George, H. and M. Zwarenstein (2009) "Chest radiograph in acute respiratory infections." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD001268.pub4.	South Africa	We identified two trials. One, of 522 outpatient children (and performed by the review authors), found that 46% of both radiography and control participants had recovered by seven days (relative risk (RR) 1.01, 95% confidence interval (CI) 0.79 to 1.31). Thirty-three per cent of radiography participants and 32% of control participants made a subsequent hospital visit within four weeks (RR 1.02, 95% CI 0.79 to 1.30) and 3% of both radiography and control participants were subsequently admitted to hospital within four weeks (RR 1.02, 95% CI 0.41 to 2.52). The other trial involving 1502 adults attending an emergency department found no significant difference in length of illness, the single outcome pre-specified for this review (mean of 16.9 days in radiograph group versus 17.0 days in control group, P > 0.05). AUTHORS' CONCLUSIONS: There is no evidence that chest radiography improves outcome in outpatients with acute lower respiratory infection. The findings do not exclude a potential effect of radiography, but the potential benefit needs to be balanced against the hazards and expense of chest radiography. The findings apply to outpatients only.	Cochrane
Routine daily chest radiographs in intensive care	Siegel MD, Rubinowitz AN. Routine daily vs on-demand chest radiographs in intensive care. Lancet. 2009;374:1656-1656	USA	Routine chest xray produces low yield of unexpected pathology in intensive care patients undergoing mechanical ventilation. There is evidence that changing from a routine daily xray to an on-demand strategy reduces the number of procedures, increases their yield, decreases costs and radiation exposure, without compromising safety in this group.	Opportunistic

Chest X-ray in children with symptoms and signs suggesting pneumonia	NICE clinical guideline 47: Feverish Illness in Children, 2007	UK	There are difficulties with all the studies in that the gold standard for diagnosing bacterial pneumonia is not specific as viral pneumonia cannot be confidently excluded on chest X-ray. Chest X ray should not be performed.	NICE
Routine chest X-rays on children with fever (without features of serious illness)	Swingler GH. Radiologic differentiation between bacterial and viral lower respiratory infection in children: a systematic literature review. Clinical Pediatrics 2000;39(11):627–33.	South Africa		NICE
Imaging in cases of low back pain	Williams CM, Maher CG, Hancock MJ, et al. Low Back Pain and Best Practice Care: A Survey of General Practice Physicians. Arch Intern Med. February 8, 2010 2010;170(3):271-277.	Australia	Patients with lower back pain are being unnecessarily referred for xrays and given recommendations for inappropriate treatments	Opportunistic
	Chou R, Fu R, Carrino JA, Deyo RA. Imaging strategies for low-back pain: systematic review and meta-analysis. Lancet. Feb 7 2009;373(9662):463-472.	UK	Lumbar imaging for lower back pain without more serious underlying conditions does not improve clinical outcomes.	2A

	Savigny P, Kuntze S, Watson P, et al. Low Back Pain: early management of persistent non-specific low back pain. London: National Collaborating Centre for Primary Care and Royal College of General Practitioners.	UK	There is no evidence of a clinical benefit from referral for X-ray in terms of pain and disability. However, patients gain satisfaction from having information needs met by the X-ray process. Patient satisfaction, however is not a primary outcome for this guideline. The cost-effectiveness of referral for X-ray depends on the value that is put on such information needs being met. There is evidence of harm with use of X-rays.	NICE
Also: Kendrick D, Fielding K, Bentley E, Miller P et al. The role of radiography in primary care patients with low back pain of at least 6 weeks duration: a randomised (unblinded) controlled trial. Health Technol Assess. 2001; 5 (30):1-69. (UK); Kerry S, Hilton S, Patel S, Dundas D et al. Routine referral for radiography of patients presenting with low back pain: Is patients' outcome influenced by GPs' referral for plain radiography? Health Technol Assess. 2000; 4 (20):1-129. (UK).				
CT or Ultrasound to diagnose appendicitis	Karakas SP, Guelfguat M, Leonidas JC, Springer S, Singh SP. Acute appendicitis in children: comparison of clinical diagnosis with ultrasound and CT imaging. Pediatr Radiol. 2000;30:94-98	USA	The rate of perforation was significantly higher when CT was performed for diagnosis, alone or after Ultra Sound,	Opportunistic
	Bendeck SE, Nino-Murcia M, Berry BJ, Brooke Jeffrey Jr R. Imaging for supected appendicitis: Negative Appendectomy and Perforation rates. Radiology. 2002; 225:131–6.	USA	Girls, men and boys are not significantly affected by pre-operative CT or US imaging.	Opportunistic

CT scans (head) in children with low risk of clinically important brain injuries after trauma	Kupperman N, Holmes JF, Dayan PS, et al. Identification of children at very low risk of clinically-important brain injuries after head trauma: a prospective cohort. he Lancet. 2009 doi:10.1016/S0140-6736(09)61558-0	USA	CT scan in low-risk head trauma patients are unnecessary. The prediction rule for injury has high sensitivity and specificity and can eliminate the need for CT and reduce unnecessary exposure to radiation.	Opportunistic
Routine monitoring of bone mineral density after starting bisphosphonate treatment	Bell KJL, Hayen A, Macaskill P, et al. Value of routine monitoring of bonemineral density after starting bisphosphonate treatment: secondary analysis of trial data. BMJ. 2009;338:b2266	Australia	Monitoring of bone density within the first 3 years of biphosphonate treatment is unnecessary and possibly misleading. The full effects of treatment are best measured after 3 years.	Opportunistic

Routine spinal magnetic resonance imaging (MRI) for all men with hormone-refractory prostate cancer and known bone metastases	NICE Guidance 58: Prostate cancer: diagnosis and treatment, 2008	UK	There is no evidence to support routine use of MRI in this situation. Bayley and co-workers (Bayley et al. 2001) reported a prospective study using MRI to screen for sub-clinical spinal cord compression in a group of men with vertebral bone metastases from prostate cancer but without symptoms of spinal cord compression. 32% of the group had sub-clinical spinal cord compression on MRI. Another series (Venkitaraman et al 2007) reported the results of spinal MRI in men with prostate cancer considered at high risk of developing spinal cord compression, but without functional neurological deficit. Radiological spinal canal compromise was seen in 27% of these men. Neither of the studies reported outcomes following MRI screening for spinal cord compression.	NICE
Also: Bayley, A., Milosevic, M., Blend, R., et al. (2001) A prospective study of factors predicting clinically occult spinal cord compression in patients with metastatic prostate carcinoma. Cancer, 92: 303–310. (Canada); Venkitaraman, R., Sohaib, S. A., Barbachano, Y., Parker, C. C., Khoo, V., Huddart, R. A., Horwich, A. & Dearnaley, D. P. (2007) Detection of Occult Spinal Cord Compression with Magnetic Resonance Imaging of the Spine. Clin Oncol (R Coll.Radiol.). 2007 Sep;19(7):528-31. (UK).				
Mammography of the ipsilateral soft tissues after mastectomy.	NICE Guideline 80: Early and locally advanced breast cancer: diagnosis and treatment, 2009	UK	Evidence from three systematic reviews of observational studies does not confirm that routine follow-up mammography directly improves survival in patients treated for breast cancer. Do not offer mammography of the ipsilateral soft tissues after mastectomy.	NICE

Also: McGahan L, Noorani H (2000) Surveillance mammography after treatment for primary breast cancer. Canadian Coordinating Office for Health Technology Assessment. (Canada); Temple LK, Wang EE, Mcleod RS (1999) Preventive health care, 1999 update: Follow-up after breast cancer. Canadian Task Force on Preventive Health Care. CMAJ, 161: 1001–1008. (Canada); Grunfeld E, Noorani H, McGahan L, et al. (2002) Surveillance mammography after treatment of primary breast cancer: a systematic review. Breast, 11: 228–235. (Canada).				
IVU for urothelial tumors	Chlapoutakis K, Theocharopoulos N, Yarmenitis S, Damilakis J. Performance of computed tomographic urography in diagnosis of upper urinary tract urothelial carcinoma, in patients presenting with hematuria: Systematic review and meta-analysis. Eur J Radiol. Feb 2010;73(2):334-338.	Ireland	CTU is more effective in detecting urothelial tumors in haematuria patients than IVU.	2A
Angiography in lower limb vascular trauma patients	Glass, G. E., M. F. Pearse, et al. (2009). Improving lower limb salvage following fractures with vascular injury: a systematic review and new management algorithm. J Plast Reconstr Aesthet Surg 62(5): 571-579.	Nether-lands	Early recognition of vascular injury is vital for limb salvage. Formal angiography in patients with lower limb vascular injury causes an increased amputation rate as a result of delay in treatment.	2A

CT or MRI in primary aldosteronism	Kempers, M. J., J. W. Lenders, et al. (2009). Systematic review: diagnostic procedures to differentiate unilateral from bilateral adrenal abnormality in primary aldosteronism. Ann Intern Med 151(5): 329-337.	US	CT/MRI misdiagnosed bilateral vs unilateral primary aldosteronism in 37.8% of patients compared to diagnosis with adrenal vein sampling.	2A
Routine ultrasound in infants or children (for UTI)	NICE Guideline 54: Urinary tract infection in children diagnosis, treatment and long-term management, 2007	UK	In most children UTI is uncomplicated and not associated with renal scarring so that a strong case can be made for reserving imaging for a small subgroup of children who are considered to be at highest risk of scarring and underlying abnormalities following UTI. This approach would enable resources to be more actively targeted on those who may benefit from further management, and obviate the need to image the vast majority of children who have recovered fully following first-time UTI. For infants and children aged 6 months and older with first-time urinary tract infection (UTI) that responds to treatment, routine ultrasound is not recommended unless the infant or child has atypical UTI (seriously ill; poor urine flow; abdominal or bladder mass; raised creatinine; septicaemia; fails to respond to treatment with suitable antibiotics within 48 hours; infection with non-E. coli organisms).	NICE
Also: Craig C. Urinary tract infection: new perspectives on a common disease. Curr Opin Infect Dis 2001;14:309–13. (Australia).				

Plain X-rays of the skull for diagnosing significant brain injury.	Lloyd DA, Carty H, Patterson M, et al. Predictive value of skull radiography for intracranial injury in children with blunt head injury. Lancet 1997, 349(9055):821-4.	UK	It has been consistently shown that clinically competent emergency department clinicians will miss between 13% and 23% of all skull fractures that are detected when radiographs are subsequently reviewed by a radiologist.	NICE
Also: Gorman DF. The utility of posttraumatic skull X-rays. Archives of Emergency Medicine 1987, 4(3):141- 50.; Thillainayagam K, MacMillan R, Mendelow AD, Brookes MT, Mowat W, Jennett B. How accurately are fractures of the skull diagnosed in an accident and emergency department. Injury 1987, 18(5):319-21. (UK).				
Structural neuroimaging techniques (either magnetic resonance imaging [MRI] or computed axial tomography [CT] scanning) for the management of first-episode psychosis.	NICE Guideline TA136: Albon E, Tsourapas A, Frew E et al. Structural neuroimaging in psychosis. Systematic review and economic evaluation, June 2007	UK	Although routine scanning could have potential benefits from early detection of structural causes of first-episode psychosis, the current evidence base, particularly in relation to the prevalence of treatable lesions in the population under examination, was too weak to support a decision to implement routine use of MRI or CT scanning in people with first-episode psychosis	NICE

The routine anomaly scan (at 18 weeks 0 days to 20 weeks 6 days) for Down's syndrome screening using soft markers.	NICE Guideline 62, Antenatal care routine care for the healthy pregnant woman, 2008	UK	'Soft markers' on ultrasound have low sensitivity and LR+ when seen individually, except for nuchal fold thickening. When found in association with other anomalies, they seem to improve the diagnostic value but the evidence is not strong. The presence of an isolated soft marker, with an exception of increased nuchal fold, on the routine anomaly scan, should not be used to adjust the a priori risk for Down's syndrome. The presence of an increased nuchal fold (6 mm or above) or two or more soft markers on the routine anomaly scan should prompt the offer of a referral to a fetal medicine specialist or an appropriate healthcare professional with a special interest in fetal medicine.	NICE
Routine screening for cardiac anomalies using nuchal translucency.	Smith-Bindman R, Hosmer W, Feldstein VA, Deeks JJ, Goldberg JD. Second-trimester ultrasound to detect fetuses with Down's syndrome. JAMA 2001;285:1044–55.	USA	The reported sensitivity and likelihood ratios of nuchal translucency measurement to detect cardiac anomalies ranged widely by centre and condition, and generally the technique seems to have poor diagnostic value. NICE Recommendation is to not perform these tests.	NICE
Also: Makrydimas G, Sotiriadis A, Ioannidis JP. Screening performance of first-trimester nuchal translucency for major cardiac defects: a metaanalysis. American Journal of Obstetrics and Gynecology 2003;189(5):1330–5. (Greece); Bahado-Singh RO, Wapner R, Thom E, et al. Elevated first-trimester nuchal translucency increases the risk of congenital heart defects. American Journal of Obstetrics and Gynecology 2005;192(5):1357–61. (USA); Atzei A, Gajewska K, Huggon IC, et al. Relationship between nuchal translucency thickness and prevalence of major cardiac defects in fetuses with normal karyotype. Ultrasound in Obstetrics and Gynecology 2005;26(2):154–7. (UK); Westin M. Is measurement of nuchal translucency thickness a useful screening tool for heart defects? A study of 16,383 fetuses. Ultrasound in Obstetrics and Gynecology 2006;27(6):632–9 (Sweden); Simpson LL, Malone FD, Bianchi DW, et al. Nuchal translucency and the risk of congenital heart disease. Obstetrics and Gynecology 2007;109(2 Pt 1):376–83. (USA).				

Plain radiographs of the spine to make or to exclude the diagnosis of spinal metastases or metastatic spinal cord compression (MSCC).	NICE Guideline 75: Metastatic spinal cord compression: Diagnosis and management of patients at risk of or with metastatic spinal cord compression, 2008	UK	From low quality studies, MRI was consistently found to provide superior diagnostic evaluation for MSCC over all other imaging modalities. Studies consistently demonstrate moderate to high sensitivity (44–100%) and specificity (90–93%) of MRI in diagnosing spinal cord compression (Andreasson et al. 1990, Colletti et al. 1991, Colletti et al. 1996, Loblaw et al. 2005) and compression fractures (Jung et al. 2003). NICE recommendation to not perform plain radiographs of the spine to make or to exclude the diagnosis of spinal metastases or metastatic spinal cord compression (MSCC).	NICE
Also: Andreasson, I., Petren-Mallmin, M., Strang, P., Nilsson, S., Nyman, R. & Hemmingsson, A. (1990) Diagnostic methods in planning palliation of spinal metastases. Anticancer Research, 10: 731–733. (Sweden); Colletti PM, S. H. W. M. Y. H. T. MR. (1996) The impact on treatment planning of MRI of the spine in patients suspected of vertebral metastasis: an efficacy study. Comput Med Imaging Graph, 20: 159–162. (USA); Colletti, P. M., Dang, H. T., Deseran, M. W., Kerr, R. M., Boswell, W. D. & Ralls, P. W. (1991) Spinal MR imaging in suspected metastases: Correlation with skeletal scintigraphy. Magnetic Resonance Imaging, 9: 349–355. (USA); Loblaw, D. A., Perry, J., Chambers, A. & Laperriere, N. J. (2005) Systematic review of the diagnosis and management of malignant extradural spinal cord compression: the Cancer Care Ontario Practice Guidelines Initiative's Neuro-Oncology Disease Site Group.[see comment]. [Review] [61 refs]. Journal of Clinical Oncology, 23: 2028–2037. (Canada); Jung, H. S., Jee, W. H., McCauley, T. R., Ha, K. Y. & Choi, K. H. (2003) Discrimination of metastatic from acute osteoporotic compression spinal fractures with MR imaging. Radiographics, 23: 179–187. (South Korea).				

Routine imaging of the spine in patients with a previous diagnosis of malignancy	NICE Guideline 75: Metastatic spinal cord compression: Diagnosis and management of patients at risk of or with metastatic spinal cord compression, 2008	UK	The evidence on imaging modalities is of low quality. There were no randomised controlled comparative imaging studies only several small studies that reported the accuracy of imaging modalities. Most studies investigated metastatic spinal disease (and reported on MSCC if it was detected) (Andraesson et al. 1990, Colletti et al. 1991, Fuji et al. 1995, Kosuda et al. 1996, Sarpel et al. 1987, Godersky et al. 1987). A minority of studies investigated occult MSCC specifically (Venkitaraman et al. 2007a, Bayley et al. 2001). Only one study examined what the outcome of detecting occult MSCC is with respect to neurological outcomes and survival (Venkitaraman et al. 2007b). There was no evidence for the benefit of serial imaging in asymptomatic patients. NICE Recommendation to not perform routine imaging of the spine in patients with a previous diagnosis of malignancy who are asymptomatic.	NICE
Also: Andreasson, I., Petren-Mallmin, M., Strang, P., Nilsson, S., Nyman, R. & Hemmingsson, A. (1990) Diagnostic methods in planning palliation of spinal metastases. Anticancer Research, 10: 731–733. (Sweden); Colletti PM, S. H. W. M. Y. H. T. MR. (1996) The impact on treatment planning of MRI of the spine in patients suspected of vertebral metastasis: an efficacy study. Comput Med Imaging Graph, 20: 159–162. (USA); Colletti, P. M., Dang, H. T., Deseran, M. W., Kerr, R. M., Boswell, W. D. & Ralls, P. W. (1991) Spinal MR imaging in suspected metastases: Correlation with skeletal scintigraphy. Magnetic Resonance Imaging, 9: 349–355. (USA); Kosuda S, Kaji T, Yokoyama H, Yokokawa T, Katayama M, Iriye T, Uematsu M, Kusano S (1996) Does bone SPECT actually have lower sensitivity for detecting vertebral metastasis than MRI? Journal of Nuclear Medicine 37: 975–978. (Japan); Venkitaraman, R et al. (2007b) Outcome of early detection and radiotherapy for occult spinal cord compression. Radiotherapy & Oncology, 85: 469–472. (UK); Sarpel S, Sarpel G, Yu E, Hyder S, Kaufman B, Hindo W, Ezdinli E (1987) Early diagnosis of spinal-epidural metastasis by magnetic resonance imaging. Cancer 59: 1112–1116.				

Imaging of the upper urinary tract in men with uncomplicated lower urinary tract symptoms (LUTS).	NICE Guideline 97: The management of lower urinary tract symptoms in men, 2010	UK	These additional tests are not warranted in routine assessment unless clinically indicated because of the low likelihood of finding pathology directly linked to the presenting LUTS, the cost of the imaging and the risks associated with the investigations (e.g. radiation dose).	NICE
Plain abdominal radiograph to diagnose idiopathic constipation in children and young people.	NICE Guideline 99: Constipation in children and young people: diagnosis and management of idiopathic childhood constipation in primary and secondary care, 2010	UK	The evidence shows that the plain abdominal radiography has little or no value to either confirm or refute a diagnosis of idiopathic constipation. One systematic review [EL=III] of six studies found conflicting evidence for the association between a clinical diagnosis of constipation and a radiographic diagnosis of constipation. One case control study [EL=III] found that the Leech scoring method showed poor diagnostic accuracy and reproducibility. NICE Recommendation: Do not use a plain abdominal radiograph to make a diagnosis of idiopathic constipation in children and young people.	NICE
Also: Reuchlin-Vroklage LM, Bierma-Zeinstra S, Benninga MA et al. Diagnostic value of abdominal radiography in constipated children: a systematic review. Archives of Pediatrics and Adolescent Medicine 2005; 159:(7)671-8. (Netherlands); de Lorijn F, van Rijn RR, Heijmans J et al. The Leech method for diagnosing constipation: intra- and interobserver variability and accuracy. Pediatric Radiology 2006; 36:(1)43-9. (Netherlands).				
Abdominal ultrasound to diagnose idiopathic constipation.	NICE Guideline 99: Constipation in children and young people: diagnosis and management of idiopathic childhood constipation in primary and secondary care, 2010	UK	There is no evidence that the abdominal US adds any useful information over and above that ascertained through thorough physical examination and history-taking in the diagnosis of chronic idiopathic constipation. NICE Recommendation: Do not use abdominal ultrasound to make a diagnosis of idiopathic constipation.	NICE

Exercise electrocardiogram (ECG) for Angina	Sekhri N, Feder GS, Junghans C, et al. Incremental prognostic value of the exercise electrocardiogram in the initial assessment of patients with suspected angina: cohort study. BMJ. November 13, 2008 2008;337(nov13_2):a2240-.	UK	Resting and exercise ECGs are of limited incremental value, more effective risk assessment needed in ambulatory suspected angina patients	Opportunistic
	Fowler-Brown A, Pignone M, Pletcher M, et al. Exercise Tolerance Testing To Screen for Coronary Heart Disease: A Systematic Review for the Technical Support for the U.S. Preventive Services Task Force. Annals of Internal Medicine. April 6, 2004 2004;140(7):W-9-W-24.	USA	Exercise tolerance testing can provide risk information but its usefulness for asymptomatic patients is unclear.	Opportunistic
	Cooper A, Calvert N, Skinner J, et al. Chest pain of recent onset: Assessment and diagnosis of recent onset chest pain or discomfort of suspected cardiac origin. Heart. 2010 Jun;96(12):974-8.	UK	One systematic review on the diagnostic performance of exercise ECG to detect CAD (search date 1987) found that there was a wide range in sensitivities (weighted mean 68(SD 16) %, range 23% to 100%) and specificities (weighted mean 77(SD 17) %, range 17% to 100%). A Health Technology Assessment (search date 1999) on the diagnostic performance of exercise ECG in patients with chronic chest pain found that the presence of ST depression had PLR of 2.79 (95%CI 2.53 to 3.07) and a NLR	NICE

			of 0.44 (95%CI 0.40 to 0.47).	
Also: Gianrossi R, Detrano R, Mulvihill D, Lehmann K et al. Exerciseinduced ST depression in the diagnosis of coronary artery disease. A meta-analysis. Circulation. 1989; 80 (1) :87-98. (USA); Mant J, McManus RJ, Oakes R-AL, Delaney BC et al. Systematic review and modelling of the investigation of acute and chronic chest pain presenting in primary care. Health Technol Assess. 2004; 8 (2) :1-158. (UK); Mowatt G, Cummins E, Waugh N, Walker S et al. Systematic review of the clinical effectiveness and cost-effectiveness of 64-slice or higher computed tomography angiography as an alternative to invasive coronary angiography in the investigation of coronary artery disease. Health Technol Assess. 2008; 12 (17) :1-143. (UK).				
Prostate Specific Antigen (PSA) testing	Schaeffer EM, Carter HB, Kettermann A, et al. Prostate Specific Antigen Testing Among the Elderly--When To Stop? The Journal of Urology. 2009;181(4):1606-1614.		Men 75 to 80 years old with a PSA less than 3ng/ml are unlikely to die or experience aggressive prostate cancer during their remaining life, suggesting that PSA testing may be safely discontinued in these men.	Opportunistic
Holter monitoring (24 hour ECG) in young patients with palpitations & history indicating ectopic beats	Hegazy RA, Lotfy WN. The value of Holter monitoring in the assessment of Pediatric patients. Indian Pacing Electrophysiol J. 2007;7(4):204-214.	Egypt	In children with palpitation, syncope and chest pain HM has a low yield. In this group abnormal ECG is more likely to be associated with abnormal Holter recordings.	Opportunistic
Cardiac stress testing on low risk patients before major surgery	Wijeysundera DN, Beattie WS, Austin PC, Hux JE, Laupacis A. Non-invasive cardiac stress testing before elective major non-cardiac surgery: population based cohort study. BMJ. January 28, 2010	Canada	Patients with no risk factors for heart complications do not benefit from stress testing before undergoing non-cardiac major surgery.	Opportunistic

	2010;340(jan28_3):b5526-.			
Cardiotocography for antepartum fetal assessment/ Antenatal cardiotocography for fetal assessment	Grivell Rosalie, M., Z. Alfirevic, et al. (2010) "Antenatal cardiotocography for fetal assessment." Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD007863.pub2.	Australia, UK	There is no clear evidence that antenatal CTG improves perinatal outcome, but further studies focusing on the use of computerised CTG in specific populations of women with increased risk of complications are warranted.	Cochrane
Diagnosis of primary tumor site in metastatic cancer	Anderson GG, Weiss LM. Determining tissue of origin for metastatic cancers: meta-analysis and literature review of immunohistochemistry performance. Appl Immunohistochem Mol Morphol. Jan 2009;18(1):3-8.	USA	Only 65% of metastatic tissue samples could identify the primary tumor site (compared to 82% of mixed primary and metastatic tissue samples). There is a need for diagnostic testing with better performance.	2A
Tissue biopsy to reassess ER status.	NICE Guideline 81, 2009: Advanced Breast Cancer	UK	The majority of papers were concerned with identifying the rate of status change but did not address overall survival, time to progression or quality of life. Approximately 15% of patients showed a change in endocrine receptor status, from positive to negative, comparing primary with locoregional or metastatic tumour samples. 93% of patients tested for HER2 status showed no change between paired samples. Patients with tumours of known oestrogen receptor (ER) status whose disease recurs should not have a further biopsy just to	NICE

			reassess ER status.	
Tissue biopsy to reassess HER2 status.	NICE Guideline 81, 2009: Advanced Breast Cancer	UK	The evidence about change in HER2 status was poor and there was no evidence about how to manage patients in whom a change was detected. Patients with tumours of known human epidermal growth factor receptor 2 (HER2) status whose disease recurs should not have a further biopsy just to reassess HER2 status.	NICE
			Majority of papers in this area are concerned with identifying the rate of status change but did not address overall survival, time to progression or quality of life. Approximately 15% of patients showed a change in endocrine receptor status, from positive to negative, comparing primary with locoregional or metastatic tumour samples. 93% of patients tested for HER2 status showed no change between paired samples.	
Assessing progesterone receptor status of tumours in patients with invasive breast cancer.	NICE Guideline 80: Early and locally advanced breast cancer: diagnosis and treatment, 2009	UK	Compared with the other three sub-groups, ER-positive/PR-negative status was initially associated with superior prognosis with respect to disease-free survival but after 8 years this advantage was lost and the prognosis was reversed (Ponzone et al., 2006). There was no strong evidence to support PR being predictive of a response to endocrine therapy despite being independently prognostic for relapse-free survival and/or overall survival. The benefits of PR status appeared to change with time and with the degree of cellular expression. There were no prospective studies comparing the response to a specific endocrine therapy of ER/PR sub-groups and no evidence with regard to treatment	NICE

			decisions based on hormone receptor status. NICE Recommendation: Do not routinely assess progesterone receptor status of tumours in patients with invasive breast cancer.	
Also: Ponzone R, Montemurro F, Maggiorotto F, Robba C, Gregori D, Jacomuzzi M, et al. (2006). Clinical outcome of adjuvant endocrine treatment according to PR and HER-2 status in early breast cancer. Ann Oncol, 17: 1631–1636. (Italy)				
Rhinomanometry and acoustic rhinometry	Andre RF, Vuyk HD, Ahmed A, et al. Correlation between subjective and objective evaluation of the nasal airway. A systematic review of the highest level of evidence. Clin Otolaryngol. Dec 2009;34(6):518-525.	UK	The correlation between subjective assessment and rhinometry methods is uncertain. There is only a limited argument for routine use of rhinomanometry and acoustic rhinometry techniques.	2A
Fluorimetry or endoscopy to assess dysphasia	Bours GJ, Speyer R, Lemmens J, et al. Bedside screening tests vs. videofluoroscopy or fibreoptic endoscopic evaluation of swallowing to detect dysphagia in patients with neurological disorders: systematic review. J Adv Nurs. Mar 2009;65(3):477-493.	UK	A water test combined with pulse oximetry using coughing and choking as endpoints is currently the best method to screen for dysphasia in neurological impairments. Single clinical features, such as abnormal gag, swallow test using water and swallow test using different viscosities had lower sensitivity and specificity.	2A
Inappropriate indication for upper endoscopy	Di Giulio, E., C. Hassan, et al. (2010). "Appropriateness of the indication for upper endoscopy: a meta-analysis."	Italy	For inappropriate indication and referral for Endoscopy the likelihood of cancer is very small, and there is very low predictive value for both cancer and relevant endoscopic	2A

	Dig Liver Dis 42(2): 122-126.		findings.	
Auditory brainstem responses for diagnosing CFS	Turnbull N, Shaw EJ, Baker R, et al. (2007). Chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy): diagnosis and management of chronic fatigue syndrome/myalgic encephalomyelitis (or encephalopathy) in adults and children. London: Royal College of General Practitioners.	UK	There is insufficient evidence to show that potential diagnostic tests for CFS/ME are useful diagnostically for adults and children. – auditory brainstem responses (Evidence level III)	NICE
Fetal blood sample (FBS) with evidence of acute fetal compromise	NICE Guideline 55: Intrapartum care of healthy women and their babies during childbirth, 2007	UK	There is limited evidence from randomised trials that FBS with continuous fetal monitoring may reduce instrumental birth and CS. The research evidence does not support the use of FBS because of the lack of direct comparison, but clinical experience and evidence from indirect comparisons suggests that FBS avoids some instrumental births and CS.	NICE
Umbilical cord blood bilirubin level to predict significant hyperbilirubinaemia.	NICE Guideline 98: Neonatal jaundice, 2010	UK	Results from three EL II studies indicate great variation in the ability of cord blood bilirubin to predict hyperbilirubinaemia in healthy term and preterm babies. Sensitivity ranged from 22% to 100% and specificity from 41% to 95%. The pooled sensitivity and specificity were 79% and 60%, respectively. NICE Recommendation to not	NICE

			use umbilical cord blood to predict hyperbilirubinaemia.	
Also: Carbonell X, Botet F, Figueras J et al. Prediction of hyperbilirubinaemia in the healthy term newborn. Acta Paediatrica 2001; 90:(2)166-70. (Spain); Knudsen A. Prediction of later hyperbilirubinaemia by measurement of skin colour on the first postnatal day and from cord blood bilirubin. Danish Medical Bulletin 1992; 39:(2)193-6. (Denmark); Knupfer M, Pulzer F, Gebauer C et al. Predictive value of umbilical cord blood bilirubin for postnatal hyperbilirubinaemia. Acta Paediatrica 2005; 94:(5)581-7. (Germany); Taksande A, Vilhekar K, Jain M et al. Prediction of the development of neonatal hyperbilirubinemia by increased umbilical cord blood bilirubin. Current Pediatric Research 2005; 9:(1-2)5-2. (India).				
Computerised tomography (CT) of the pelvis in men with low- or intermediate-risk localised prostate cancer.	NICE Guidance 58: Prostate cancer: diagnosis and treatment, 2008	UK	There is not enough evidence to support the routine use of CT in men with intermediate-risk disease and it is considered inferior to MRI in this clinical situation. Two studies, reviewed in 'Improving outcomes in urological cancers service guidance' (NICE 2002), showed better staging accuracy with MRI than with CT.	NICE
Sentinel lymph node biopsy (SLNB) in patients with a preoperative diagnosis of ductal carcinoma in situ (DCIS).	NICE Guideline 80: Early and locally advanced breast cancer: diagnosis and treatment, 2009	UK	A limited volume of case series studies which address SLNB in patients with DCIS were identified. Ansari et al. (2008) conducted a meta-analysis (of observational studies) of the reported data on the incidence of sentinel lymph node metastasis in patients with DCIS. This analysis reported SLNB results in patients with the diagnosis of DCIS. The analysis showed the frequency of sentinel lymph node positivity in patients with a preoperative diagnosis of DCIS ranged from 0 to 16.7%. With an overall positivity incidence of 7·4%. Postoperative overall positivity incidence was .7%. The overall frequencies of nodal metastasis between the two groups (preoperative versus definitive diagnosis) were significantly different. There was no evidence to suggest that a pattern exists	NICE

			between the rate of positive sentinel lymph nodes and DCIS grade. There was no evidence to suggest that a pattern exists between the rate of positive sentinel lymph nodes and DCIS tumour size. None of the selected studies (all retrospective) reported changes to treatment plans as a result of staging by SLNB, and all studies were retrospective in nature. NICE recommendation: Do not perform sentinel lymph node biopsy (SLNB) routinely in patients with a preoperative diagnosis of ductal carcinoma in situ (DCIS) who are having breast conserving surgery, unless they are considered to be at a high risk of invasive disease.	
Also: Ansari B, Ogston SA, Purdie CA, Adamson DJ, Brown DC and Thompson AM (2008) Meta-analysis of sentinel node biopsy in ductal carcinoma in situ of the breast. British Journal of Surgery, 95: 547–554. (UK); Veronesi U, Paganelli G, Viale G, Luini A, Zurrida S, Galimberti V, et al. (2003) A randomized comparison of sentinel-node biopsy with routine axillary dissection in breast cancer. N Engl J Med, 349 (6): 546–553. (Italy); Wilkie C, White L, Dupont E, Cantor A and Cox CE (2005) An update of sentinel lymph node mapping in patients with ductal carcinoma in situ. Am J Surg, 190 (4): 563–566. (USA).				
Urinary flow-rate measurement in men with lower urinary tract symptoms (LUTS).	NICE Guideline 97: The management of lower urinary tract symptoms in men, 2010	UK	The range of values for sensitivity of 47% to 99% indicate that the urinary flow rate has variable diagnostic worth in detecting true cases of obstruction, and the range of values for specificity of 31% to 87% show that the urinary flow rate has variable diagnostic worth in detecting true cases of no obstruction. The range of likelihood ratios for a positive test for obstruction (LR+) are between 1.6 and 3.8 suggesting that urinary flow rate misdiagnoses a variable proportion of patients as unobstructed when they are obstructed when compared to the suggested standard of LR+=10 for a test with good discriminatory	NICE

			power. NICE Recommendation: Do not routinely offer flow-rate measurement to men with lower urinary tract symptoms (LUTS) at initial assessment.	
Also: Oelke M, Hofner K, Jonas U, de la Rosette JJ, Ubbink DT, Wijkstra H. Diagnostic accuracy of noninvasive tests to evaluate bladder outlet obstruction in men: detrusor wall thickness, uroflowmetry, postvoid residual urine, and prostate volume. European Urology 2007, 52(3):827-34. (Guideline Ref ID: OELKE2007) (Netherlands); Poulsen AL, Schou J, Puggaard L, Torp-Pedersen S, Nordling J. Prostatic enlargement, symptomatology and pressure/flow evaluation: Interrelations in patients with symptomatic BPH. Scandinavian Journal of Urology and Nephrology Supplementum 1994, 157:67-73. (Guideline Ref ID: POULSEN1994) (Denmark); Reynard JM, Peters TJ, Lim C, Abrams P. The value of multiple free-flow studies in men with lower urinary tract symptoms. British Journal of Urology 1996, 77(6):813-8. (Guideline Ref ID: REYNARD1996) (UK); Reynard JM, Yang Q, Donovan JL, Peters TJ, Schafer W, De la Rosette JJMC et al. The ICS-'BPH' Study: Uroflowmetry, lower urinary tract symptoms and bladder outlet obstruction. British Journal of Urology 1998, 82(5):619-23. (Guideline Ref ID: REYNARD1998) (UK).				
Fecal occult blood screening for colorectal cancer	Special Report: Fecal DNA Analysis for Colon Cancer Screening. (2206) from http://www.bcbs.com/blueresources/tec/vols/21/21_06.html.	USA	Fecal DNA screening sensitivity for cancer was 52% while FOBT screening sensitivity for cancer was 13%. Specificities for both tests were similar.	BCBS
Transit studies to diagnose idiopathic constipation.	NICE Guideline 99: Constipation in children and young people: diagnosis and management of idiopathic childhood constipation in primary and secondary care, 2010	UK	There is no clear evidence of what is ‘normal' and the fact that a test comes back as ‘normal' does not necessarily mean that the child is not constipated. The results of the transit studies should be interpreted in the context of the clinical picture, the population and the clinical setting. Different methods to measure transit time are used in different centres and there is no evidence to confirm which one is better. NICE Recommendation: Do not use transit studies to make a diagnosis of idiopathic	NICE

			constipation.	
Spirometry during COPD exacerbation and treatment monitoring	Health Technology Inquiry Service. Spirometry testing for chronic obstructive pulmonary disease: Evidence for change in diagnosis, treatment strategy and cost-effectiveness. CADTH 2010.	Canada	Performing spirometry during a COPD exacerbation is of little value and although spirometry is indicated to monitor disease progression, optimal intervals have not been established and clinical judgment should be used.	CADTH
	Pulmonary function tests in adults: KCE reports 60C. [Internet]. Brussels: Belgian Health Care Knowledge Centre; 2007. [cited 2009 Dec 18]. Available from: http://www.kce.fgov.be/Download.aspx?ID=847	Belgium	In-treatment monitoring with spirometry may not improve patient outcomes.	
Also: Wilt TJ, Niewoehner D, Kim CB, Kane RL, Linabery A, Tacklind J, et al. Use of spirometry for case finding, diagnosis, and management of chronic obstructive pulmonary disease (COPD). Evidence report/technology assessment; 121. [Internet]. Rockville (MD): Agency for Healthcare Research and Quality; 2005 (USA).				
Spirometry for COPD screening	Health Technology Inquiry Service. Respiratory spirometry testing: Diagnostic Accuracy and Guidelines. CADTH 2009.	Canada	Overall, it is not recommended that respiratory spirometry be used for large population screening for COPD,	CADTH

Also: Health care guideline: diagnosis and management of chronic obstructive pulmonary disease (COPD). Bloomington (MN): Institute for Clinical Systems Improvement; 2009. Available: http://www.icsi.org/chronic_obstructive_pulmonary_disease/chronic_obstructive_pulmonary_disease_2286.html (accessed 2009 Jun 12). See page 9: Spirometry (USA); Screening for chronic obstructive pulmonary disease using spirometry: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med 2008;148(7):529-34. (USA).				
Social skills training (as a specific intervention) to people with schizophrenia.	NICE guideline on core interventions in the treatment and management of schizophrenia in adults in primary and secondary care. 2009.	UK	The review found no evidence to suggest that social skills training is effective in improving the critical outcomes. None of the new RCTs were UK based, with most new studies reporting non-significant findings. There was limited evidence for the effectiveness of social skills training on negative symptoms. However this evidence is primarily drawn from non-UK studies and is largely driven by one small study (RONCONE2004) that contains multiple methodological problems.	NICE
Hospitalisation for bed rest in multiple pregnancy	Crowther CA, Han S. Hospitalisation and bed rest for multiple pregnancy. Cochrane Database Syst Rev. 2010;7:CD000110.	Australia	There is currently not enough evidence to support a policy of routine hospitalisation for bed rest in multiple pregnancy. No reduction in the risk of preterm birth or perinatal death is evident, although there is a suggestion that fetal growth may be improved. For women with an uncomplicated twin pregnancy the results of this review show no benefit from routine hospitalisation for bed rest. Until further evidence is available, the policy cannot be recommended for routine clinical practice.	2C