

Cochrane for Clinicians

Putting Evidence into Practice

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General Health Checks for Reducing Morbidity and Mortality

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Clinical Question

Do general health checks in adults reduce morbidity and mortality?

Evidence-Based Answer

Although general health checks increase the number of new diagnoses, they do not decrease total, cardiovascular-related, or cancer-related morbidity or mortality. The studies in this Cochrane review have limited applicability to the current recommended practice of providing selective, evidence-based preventive services in primary care settings. (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

The general health check (also known as the complete physical examination or periodic health evaluation) has been a standard part of medical practice for years. Despite a lack of consensus on the value of the complete physical examination, physicians and patients continue to support it. In fact, 66% of the public think that having an annual complete physical examination is necessary.¹ Physicians cite perceived benefits to the physician-patient relationship, patient expectations for a complete physical examination, fear of malpractice litigation, and compensation as reasons to continue performing complete physical examinations.²

In a meta-analysis of 14 randomized controlled trials involving 182,880 adults (median follow-up of nine years), this Cochrane review showed that general health checks in adults did not decrease total, cardiovascular-related, or cancer-related mortality (risk ratio = 0.99 to 1.03). Morbidity outcomes, such as rates of coronary heart disease, cerebrovascular accident, and cancer, also were unaffected. General health checks did, however,

increase the overall number of new diagnoses. No effects were noted on hospital admissions, referrals to subspecialists, disability, patient worry, increased visits to physicians, or work absences. Limitations of this review include significant heterogeneity in the trials with different outcome measures, older trials (1963 to 1999) that do not include the potential benefits of newer treatments, and a lack of data on harms such as overdiagnosis and unnecessary resource utilization. Most general health checks took place outside of primary care, and many of the screening tests provided (e.g., urinalysis, electrocardiography, spirometry) have not demonstrated effectiveness in randomized trials.³

Other reviews of the general health check have reached different conclusions. In a systematic review of 21 studies (including 10 randomized controlled trials), the periodic health evaluation was associated with a beneficial effect on patients receiving recommended preventive services, such as Papanicolaou testing, cholesterol screening, and fecal occult blood testing, as well as a decrease in patient worry.⁴ Another systematic review of 12 studies and guidelines prepared for the Department of Veterans Affairs concluded that periodic screening for hypertension, obesity, and cervical cancer was beneficial, but that performing a routine complete physical examination was not.⁵

Although the general health check has not been shown to decrease morbidity or mortality, there is some evidence that designating a specific visit for the provision of preventive services may increase the likelihood that patients will receive them. However, the annual complete physical examination may not be the ideal setting. Adding preventive services to other patient visits, sending reminders to patients to use these services, and using community linkages, such as screening at job sites or schools, could be potential avenues for effective delivery of preventive services. Evaluating better models for the delivery of evidence-based preventive services is an area for further research.

SOURCE: Krogsbøll LT, Jørgensen KJ, Grønhøj Larsen C, Gøtzsche PC. General health checks in adults for reducing morbidity and mortality from disease. *Cochrane Database Syst Rev.* 2012;(10):CD009009.

The practice recommendations in this activity are available at <http://summaries.cochrane.org/CD009009>.

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Ultrasound-Guided Steroid Injections for Shoulder Pain

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Clinical Question

Does using ultrasonography to guide steroid injections into the shoulder region improve pain or function compared with using anatomic landmarks alone?

Evidence-Based Answer

Ultrasound-guided glucocorticoid injection for shoulder pain provides no advantage over landmark-guided or intramuscular injection in terms of pain, function, range of motion, or safety when measured within a six-week follow-up period. However, the small sample size of this review means that a clinically significant benefit cannot be ruled out. (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Traditional shoulder injections are performed using anatomic landmarks alone (i.e., blind). A 2003 Cochrane review showed modest benefits from steroid injection for rotator cuff

disease and adhesive capsulitis, and effects were short-lived.¹ However, other studies have shown that the accuracy of needle placement into the subacromial bursa or glenohumeral joint is highly variable. Ultrasound-guided injections appear to increase accuracy, but there is conflicting evidence as to whether they provide any advantage over blind injections in terms of patient-oriented outcomes.

The authors of this Cochrane review analyzed five studies with 290 participants (randomized and quasirandomized controlled trials) to compare ultrasound-guided steroid injection with blind or gluteal steroid injection. Of the four trials that included participants with rotator cuff disease, subacromial bursitis, or both, three compared ultrasound-guided injection with blind injection into the subacromial bursa, and one compared ultrasound-guided subacromial injection with gluteal injection. The fifth trial included participants with adhesive capsulitis, and the injection (either blind or ultrasound-guided) was directed into the glenohumeral joint. No trial had more than six weeks of follow-up. Primary outcomes included pain and function.

The authors found no significant differences between groups in pain reduction at any of the end points. In data pooled from three studies, range of abduction improved by about 20 degrees at two weeks with ultrasound-guided injection. However, statistical heterogeneity was considerable, and benefits were not seen at other time points. Minor adverse events such as transient postinjection pain and facial redness were rare and occurred equally in the control and ultrasound-guided treatment groups.

Only one study was assessed to have a low risk of bias; it compared ultrasound-guided subacromial injection with systemic gluteal injection.² No differences in pain or function were noted between groups during a six-week follow-up, suggesting that any benefit of the injection was likely from its systemic effects and not dependent on injection location.

Four of the studies did not specify or account for oral analgesic use, which could have affected the clinical end point. In three studies, 20 mg of triamcinolone was used as the injectate, which some may consider a low dose. In a letter to the editor following

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the gluteal injection controlled study, a critic questioned the validity of rotator cuff disease as a specific disease entity and asked how a subacromial injection could possibly reach all affected tendons and problem areas.³ A recent review discusses the most useful techniques for accurately diagnosing rotator cuff disease.⁴

Future studies should address glenohumeral arthritis (such cases were largely excluded from this meta-analysis). Confirmatory studies also should be performed to compare local injection with systemic intramuscular injection or oral glucocorticoid use.

Although evidence of increased effectiveness is lacking, attempting to accurately administer steroid injections to their target location is still considered standard of care. Point-of-care ultrasonography can be helpful when training health care professionals to see and feel where the injection is going. Various pathologies also can be visualized with ultrasonography. A four-minute video of a clinician performing ultrasonography of shoulder structures and administering a subacromial injection is available at <http://www.youtube.com/watch?v=Z161HyusPhg&feature=related>. More short videos of ultrasonographic techniques for specific tendons and structures can be accessed at <http://radiographics.rsna.org/content/suppl/2005/12/05/e23.DC1>. Pictorial essays of shoulder ultrasonography are available online at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3424700> and <http://radiographics.rsna.org/content/26/1/e23.long>.

SOURCE: Bloom JE, Rischin A, Johnston RV, Buchbinder R. Image-guided versus blind glucocorticoid injection for shoulder pain. *Cochrane Database Syst Rev*. 2012;(8):CD009147.

The practice recommendations in this activity are available at <http://summaries.cochrane.org/CD009147>.

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