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This alert highlights some of the key health care conclusions and their implications for practice as published this week in The Cochrane Library, 2007, Issue 2.

To receive a full copy of the Reviews highlighted in this newsletter, or to arrange an interview with an author, contact Jennifer Beal +44 (0)1243 770633 or by email, jbeal@wiley.co.uk.

Reviews highlighted in this newsletter:

- **Don't use drains in uncomplicated open cholecystectomy**

Drains increase harm without providing any benefit for patients undergoing open cholecystectomy, a Cochrane Review discovered – they should therefore be avoided.

- **Should researchers wash their hands of hand washing?**

Despite the high profile given to hand washing in hospitals, there is still little robust evidence to show which are the best ways to improve hand hygiene. Health care-associated infection is a major cause of illness and death, and effective hand hygiene is thought to be one of the best ways to prevent it.

- **Mosquito repellents that emit high-pitched sounds don't prevent bites and therefore won't prevent malaria**

A Cochrane Systematic Review of the use of electronic mosquito repellents (EMRs) failed to find any evidence that they work. The researchers therefore say that there is no reason for recommending their use, and that there is no reason for even trying to do more research with the devices.

- **A few brief meetings with healthcare workers can curb excessive drinking in men**

Between one and four standard appointments with a general practitioner or nurse can reduce a patient's alcohol consumption by an average of five standard drink units¹ a week, according to a Cochrane Review. The effect of brief advice about alcohol is more pronounced in men and a year later, they still had significantly reduced alcohol consumption. There is, however, less evidence that this approach helps curb excessive alcohol intake in women.

- **Cup feeding cannot be recommended as a method of supplementation in breast-feeding infants.**

Newborn infants who are cup-fed as at least part of their feeding regime, are more likely to be exclusively breast-fed when they leave hospital, but are no more likely to be breast-fed three or six months later, a team of Cochrane Researchers have found. Moreover, cup-fed babies stay an average of 10 days longer in hospital. The lack of clear benefit, combined with the additional cost of the extended hospital stay, means that cup feeding cannot be recommended.

- **Bike helmet legislation could make cycling safer**

Legislation that requires people to wear bicycle helmets appears to increase use and decreases injury rates, according to the results of a Cochrane Review. Cycling is a popular pastime and a mode of transport for children, but it also leads to many injuries that are frequently sufficiently severe to require hospitalisation. This is a global problem, and particularly affects low-income countries where the proportion of cycle-users is high.

- **Advanced provision of emergency contraception does not reduce pregnancy rates**

Cochrane Reviewers discovered that despite increased and faster use of emergency contraception, advance provision did not reduce pregnancy rates on a population level. At the same time advance provision was not accompanied by increased rates of sexually transmitted infections or increased frequency of unprotected intercourse. In addition it did not lead to women changing their use of other contraceptives.

Don't use drains in uncomplicated open cholecystectomy

Drains increase harm without providing any benefit for patients undergoing open cholecystectomy, a Cochrane Review discovered – they should therefore be avoided.

Cholecystectomy is the term used to describe the surgical removal of a gallbladder. It is performed mainly as a treatment for chronic gallstones. Although many operations are now carried out by laparoscopy, some are still done by open surgery. In these operations there is an ongoing debate about whether drains should be used. Some argue that it will prevent fluid build-up and infections around the patient's liver after the operation, others say that drains increase wound and chest infections.

To assess the benefits and harms of using a drain in this operation, a team of Cochrane Researchers performed a systematic review. They identified 28 trials involving 3,659 patients.

By assessing all the data, the team found that having or not having a drain did not affect the incidence of death or internal infections. Having a drain did, however, significantly increase the rate of chest and wound infections.

“Our review has shown that routine drain use after open cholecystectomy does not benefit the patient in any way, and does increase their risk of infection; they should no longer be used in this type of operation,” says lead author Dr Gurusamy, who works at the Royal Free Hospital in London.

Gurusamy KS, Samraj K. Routine abdominal drainage for uncomplicated open cholecystectomy. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD006003. DOI: 10.1002/14651858.CD006003.pub2.

Should researchers wash their hands of hand washing?

Despite the high profile given to hand washing in hospitals, there is still little robust evidence to show which are the best ways to improve hand hygiene.

Health care-associated infection is a major cause of illness and death, and effective hand hygiene is thought to be one of the best ways to prevent it.

A team of Cochrane Researchers therefore performed a systematic review to determine whether strategies to improve hand hygiene are effective.

Sadly they could only locate two trials that were worthy of consideration, and both were poorly controlled. The conclusion they could draw was that a single teaching session was unlikely to improve hand hygiene even in the short-term.

“We desperately need some good research that will begin to show which interventions can bring about change in people’s behaviour that will lead to increased hand hygiene,” says Dinah Gould, Cochrane Review Author, who works at the School of Nursing and Midwifery at City University, London.

“In addition to preventing unnecessary spread of disease, good hand hygiene is highly desirable on aesthetic grounds alone, it forms an important indicator of the quality of health care and should continue to be promoted in all clinical settings,” says Gould.

Gould DJ, Chudleigh JH, Moralejo D, Drey N. Interventions to improve hand hygiene compliance in patient care. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005186. DOI: 10.1002/14651858.CD005186.pub2.

Mosquito repellents that emit high-pitched sounds don’t prevent bites and therefore won’t prevent malaria

A Cochrane Systematic Review of the use of electronic mosquito repellents (EMRs) failed to find any evidence that they work. The researchers therefore say that there is no reason for recommending their use, and that there is no reason for even trying to do more research with the devices.

Malaria is transmitted when a person is bitten by an infected female mosquito. Manufacturers of electronic mosquito repellents (EMRs) claim that the high pitch sound they emit repels female mosquitoes, and therefore protects people in the vicinity from bites and disease.

To test these claims a team of Cochrane Researchers conducted a systematic review looking for trials conducted with EMRs. They located ten field trials that had been carried out in various parts of the world. None of these trials showed any evidence that EMRs work.

“All ten studies found that there was no difference in the number of mosquitoes found on the bare body parts of the human participants with or without an EMR,” says lead author Dr Ahmadali Enayati, who works at the Mazandaran University of Medical Sciences in Iran.

Although the researchers found no direct evidence on whether EMRs prevent malaria, the fact that they failed to reduce bites means that they could not reduce infection rates.

Enayati AA, Hemingway J, Garner P. Electronic mosquito repellents for preventing mosquito bites and malaria infection. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005434. DOI: 10.1002/14651858.CD005434.pub2.

A few brief meetings with healthcare workers can curb excessive drinking in men

Between one and four standard appointments with a general practitioner or nurse can reduce a patient's alcohol consumption by an average of five standard drink units¹ a week, according to a Cochrane Review. The effect of brief advice about alcohol is more pronounced in men and a year later, they still had significantly reduced alcohol consumption. There is, however, less evidence that this approach helps curb excessive alcohol intake in women.

Excessive drinking causes poor health and an increased risk of dying, as well as creating many social problems such as violence, accidents and suicide. This occurs in developed and developing countries alike. The World Health Organisation claims that alcohol abuse has a global cost to health that is greater than tobacco.² Much of the damage is caused not by people with severe alcohol dependence, but by those who simply drink too much. It is this group of people who are the target for brief interventions that aim at preventing harm.

Performing a systematic review, Cochrane Reviewers identified 28 controlled trials from various countries, which involved more than 7,000 people in total. Participants drank an average of more than 40 standard drink units a week in UK terms (around 320 grams of alcohol) when they entered the trials. People receiving the intervention had one to four sessions that lasted between 5 and 15 minutes with a doctor, or up to 30 minutes with a nurse.

A year after taking part in between one and four short sessions in a primary healthcare setting, men were consuming on average 57 grams per week less alcohol (range 25 to 89g) which is equivalent to 7 UK standard drink units per week (range 11 to 3 units). The benefit for women was not clear because there was much less data for women, furthermore longer treatment regimens seemed to have little additional benefit.

"Future research should focus on women and on working out which elements of the brief interventions had most effect on patients," says lead author Dr Eileen Kaner who works in the Institute of Health and Society, Newcastle University.

Kaner EFS, Beyer F, Dickinson HO, Pienaar E, Campbell F, Schlesinger C, Heather N, Saunders J, Burnand B. Effectiveness of brief alcohol interventions in primary care populations. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD004148. DOI: 10.1002/14651858.CD004148.pub3.

Cup feeding cannot be recommended as a method of supplementation in breast-feeding infants.

Newborn infants who are cup-fed as at least part of their feeding regime, are more likely to be exclusively breast-fed when they leave hospital, but are no more likely to be breast-fed three or six months later, a team of Cochrane researchers have found. Moreover, cup-fed babies stay an average of 10 days longer in

hospital. The lack of clear benefit, combined with the additional cost of the extended hospital, stay means that cup feeding cannot be recommended.

The optimal milk for newborn infants is their mother's breast milk, and the best way for them to get this is to suckle on the breast. There are, however, many situations where this optimum cannot be achieved and an alternative, or a supplement, is required. Ways of giving the supplement include gastric tube feeding, bottle-feeding and cup-feeding.

Cup-feeding has been suggested because the equipment is simple, inexpensive and easy to keep clean. There are also suggestions that infants who learn to lap milk from a cup will still be able to learn to breast feed in the future, while infants who learn to feed from a bottle often do not manage to switch to the breast. On the other hand, parents often find that cup feeding is very slow and difficult to manage.

Cochrane Researchers set out to see whether there was evidence for or against cup-feeding, and they drew their finding from four trials that met inclusion criteria.

"Cup-feeding cannot be recommended over bottle-feeding as a supplement to breast feeding, because it confers no benefit in maintaining breast feeding beyond hospital discharge, and may carry the unacceptable consequence of a longer stay in hospital," says lead researcher Anndrea Flint, who works at the Royal Women's Hospital in Brisbane, Australia.

"Studies have indicated that when parents and practitioners try cup-feeding there is a high rate of non-compliance, suggest that there is little point in trying to do further research in this area," says Flint.

Flint A, New K, Davies MW. Cup feeding versus other forms of supplemental enteral feeding for newborn infants unable to fully breastfeed. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005092. DOI: 10.1002/14651858.CD005092.pub2.

Bike helmet legislation could make cycling safer

Legislation that requires people to wear bicycle helmets appears to increase use and decreases injury rates, according to the results of a Cochrane Review.

Cycling is a popular pastime and a mode of transport for children, but it also leads to many injuries that are frequently sufficiently severe to require hospitalisation. This is a global problem, and particularly effects low-income countries where the proportion of cycle-users is high.

Between 35% and 40% of children who are taken to hospital after a cycling incident have head injuries. A previous Cochrane Review identified that bicycle helmets can reduce head injury by up to 88% and facial injury by 65% in all ages.³ Despite considerable evidence that helmets make you safer, many people still do not use them.

Some countries have tried introducing legislation to increase use. In Australia, for example, cyclists of all ages must wear a helmet. Similar legislation exists in most provinces of Canada, but it only applies to children and adolescents.

A pair of Cochrane researchers therefore set out to see whether there was evidence that introducing legislation did indeed reduce injuries, and whether it introduced any unintended consequences.

They found five studies that met their inclusion criteria. In each case the studies looked at situations where legislation had only covered children.

There was a clear indication that areas that introduced helmet legislation saw a decrease in head injury associated with increased use of helmets.

“What is not clear, however, is whether the legislation caused fewer children to go out on their bikes. It may be that the reductions in injuries were a result of children using bikes less, however, there have been no high quality studies that have tested this scenario,” says lead author Anneliese Spinks, who works in the School of Medicine at Griffith University, Queensland, Australia.

“Legislation on its own will probably have little effect unless it is enforced, and we still need to determine the relationship between police enforcement of laws, helmet use and cycling rates,” says Spinks.

Macpherson A, Spinks A. Bicycle helmet legislation for the uptake of helmet use and prevention of head injuries. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005401. DOI: 10.1002/14651858.CD005401.pub2.

Advanced provision of emergency contraception does not reduce pregnancy rates

Women who have unprotected sexual intercourse or experience contraceptive failure can seek emergency contraception to reduce their chance of unintended pregnancy. Emergency contraception is a safe medication, and to be effective, must be taken within five days of unprotected intercourse. Several barriers can discourage use of emergency contraception, including an inability to obtain the medication fast enough. One proposed solution is to let women have a set of the tablets that they can keep for immediate use should it be needed.

“Providing emergency contraception before it is needed in case unprotected intercourse occurs gives women rapid access to the medication,” says lead author Chelsea Polis, a PhD student at the Johns Hopkins Bloomberg School of Public Health, in Baltimore, USA.

Polis headed up a team of Cochrane Researchers who set out to see whether this sort of advance provision of emergency contraception influenced pregnancy rates, occurrence of sexually transmitted diseases, sexual behaviour and the use of other contraceptives.

They identified eight randomised controlled trials that met their inclusion criteria, which involved a total of 6,389 people living in the USA, China and India.

Despite increased use (single and multiple) and faster use of emergency contraception, advance provision did not reduce pregnancy rates on a population level.

At the same time advance provision was not accompanied by increased rates of sexually transmitted infections or increased frequency of unprotected intercourse. In addition it did not lead to women changing their use of other contraceptives.

“Women should have education about, and easy access to, emergency contraception because it can decrease the chance of pregnancy. However, the interventions for advance provision tested so far have not reduced overall pregnancy rates,” says Polis.

Polis CB, Schaffer K, Blanchard K, Glasier A, Harper CC, Grimes DA. Advance provision of emergency contraception for pregnancy prevention (full review). *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005497. DOI: 10.1002/14651858.CD005497.pub2.

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Notes for editors

1. A standard drink unit in the UK is based on 8g alcohol, in Europe and Australia it is 10g and in the USA it is 12g.
2. WHO 1999 World Health Organization. *Global Status Report on Alcohol*. Geneva: World Health Organization, 1999.
3. Thompson DC, Rivara FP, Thompson R. Helmets for preventing head and facial injuries in bicyclists. *Cochrane Database of Systematic Reviews* 1999, Issue 4. Art. No.: CD001855. DOI: 10.1002/14651858.CD001855
4. The Cochrane Library contains high quality health care information, including Systematic Reviews from The Cochrane Collaboration. These Reviews bring together research on the effects of health care and are considered the gold standard for determining the relative effectiveness of different interventions. The Cochrane Collaboration (<http://www.cochrane.org>) is a UK registered international charity and the world's leading producer of systematic Reviews. It has been demonstrated that Cochrane Systematic Reviews are of comparable or better quality and are updated more often than the Reviews published in print journals^a.
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^a Jadad AR, Cook DJ, Jones A, Klassen TP, Tugwell P, Moher M, et al. Methodology and reports of systematic Reviews and meta-analyses: a comparison of Cochrane Reviews with articles published in paper-based journal.