

deferred⁵ potentially allows for screening and treatment to be conducted during the first year at school.⁸ This could improve both coverage and compliance with treatment. It is reassuring to learn from this paper that deferring treatment for 12 months in children with acuities of 6/36 or better does not have an adverse outcome, but we do not know whether this applies to children whose vision is worse than this at the outset.

The results described by Clarke et al⁵ should not lead to the conclusion that screening and treating children with 6/9 or 6/12 vision is not worth while, because the treatment applied was based on accepted tradition. An alternative approach is to question whether we can improve our treatment protocols to attain better results in this group. The traditional model of patching for amblyopia tends to be one in which the closer vision is to normal the less treatment is given. However, recent work has indicated that more intensive treatment may be needed in children with better levels of vision in order to re-establish bifoveal fixation.⁹ Psychosocial analysis is also necessary to determine whether the benefits of treatment outweigh the strains imposed by patching.¹⁰

Nevertheless, good evidence exists that screening and treatment for amblyopia in young children is warranted. For example, a large study from Israel found that 8 year old children previously screened and treated for amblyopia had a 1% prevalence of the disorder compared with 2.6% for a matched untreated population.¹¹

It could be questioned whether it is worth while treating amblyopia in one eye. After all the other eye can act as a spare. In many countries driving standards for professional drivers, the armed forces, and emergency services require good visual acuities in both eyes, so amblyopia can be a bar to entering these professions. Moreover, sizeable numbers of people go

blind every year because of new disease in one eye and prior amblyopia in the other.¹² The projected lifetime risk of vision loss for an individual with amblyopia was found to be at least 1.2%.¹²

The study by Clarke et al confirms that in at least some children detecting and treating amblyopia is beneficial. We now need to turn our attention to optimising strategies to get the best results.

Gordon N Dutton *consultant ophthalmologist*
(Sheena.MacKay@NorthGlasgow.scot.nhs.uk)

Marie Cleary *senior orthoptist*

Tennent Institute of Ophthalmology, Gartnavel General Hospital, Glasgow G12 0YN

- Hubel DH, Wiesel TN. Binocular interaction in striate cortex of kittens reared with artificial squint. *J Neurophysiol* 1965;28:1041-59
- Gelbart SS, Hoyt CS, Jastrebski G, Marg E. Long-term visual results in bilateral congenital cataracts. *Am J Ophthalmol* 1982;93:615-21.
- Lithander J, Sjostrand J. Anisometropic and strabismic amblyopia in the age group 2 years and above: a prospective study of the results of treatment. *Br J Ophthalmol* 1991;75:111-6.
- Snowdon SK, Stewart-Brown SL. *Preschool vision screening*. Winchester, England: Health Technology Assessment, 1997:1-83.
- Clarke MP, Wright CM, Hrisos S, Anderson JD, Henderson J, Richardson SR. Randomised controlled trial of treatment of unilateral visual impairment detected at preschool vision screening. *BMJ* 2003;327:1251-4.
- Simmers AJ, Gray LS, Spowart K. Screening for amblyopia: a comparison of paediatric letter tests. *Br J Ophthalmol* 1997;81:465-9.
- Williamson TH, Andrews R, Dutton GN, Murray G, Graham N. Assessment of an inner city visual screening programme for preschool children. *Br J Ophthalmol* 1995;79:1068-73
- Hall DB, Elliman D. *Health for all children. 4th edition*. Oxford: Oxford University Press, 2003
- Houston CA, Cleary M, Dutton GN, McFadzean RM. Clinical characteristics of microtropia—is microtropia a fixed phenomenon? *Br J Ophthalmol* 1998;82:219-24.
- Searle A, Norman P, Harrad R, Vedhara K. Psychosocial and clinical determinants of compliance with occlusion therapy for amblyopic children. *Eye* 2002;16:150-5.
- Eibschitz-Tsimhoni M, Friedman T, Naor J, Eibschitz N, Friedman Z. Early screening for amblyogenic risk factors lowers the prevalence and severity of amblyopia. *J AAPOS* 2000; 4: 194-9.
- Rahi J, Logan S, Timms C, Russell-Eggitt I, Taylor D. Risk, causes, and outcomes of visual impairment after loss of vision in the non-amblyopic eye: a population-based study. *Lancet* 2002;24:597-602.

Treatments for heavy menstrual bleeding

Guidelines improve prescribing practice but may not affect hysterectomy rates

Hheavy menstrual bleeding is a common cause of iron deficiency anaemia and may affect a woman's quality of life. Thirty per cent of women consider their menstruation to be excessive.^{w1} In more than half of women with menorrhagia no obvious cause for the bleeding is found, and in at least half of those who undergo hysterectomies in the United Kingdom heavy menstrual bleeding is the main presenting problem.^{w2} Concern has been expressed that unnecessary surgery is being performed, and treatment of this common condition is not appropriate and evidence based.¹

One difficulty with the available research is that the focus has been on trying accurately to measure blood loss as a response to treatment. There are problems with this approach. Firstly, there is a large discrepancy between women's perception of their menstrual loss and accurate measurement of the blood flow. For example, only about half of women complaining of heavy

menstrual bleeding have a menstrual loss greater than 80 ml per cycle, which is the cut-off for a clinical diagnosis of heavy menstrual bleeding.² Secondly, the current gold standard for measuring menstrual blood loss is a modification of the alkaline haematin technique,³ but this method is impractical in clinical practice and not used outside a research setting and makes generalisability of studies that report only measured menstrual blood loss difficult. A number of alternative more practical methods have been suggested. The pictorial blood loss assessment chart is a semi-quantitative method with a scoring system, but its accuracy as a diagnostic test has been questioned.⁴ Other outcomes may better reflect improvement in menstrual blood loss, such as quality of life, patients' satisfaction, and acceptability of treatments. Trials have been slow to measure these more patient oriented outcomes.

The currently available medical treatments include non-steroidal anti-inflammatory drugs, anti-fibrinolytic



Extra references
appear on bmj.com

BMJ 2003;327:1243-4

drugs, and hormones, and their effectiveness, side effect profile, and acceptability to women show considerable variation. A recent decision analysis showed that the levonorgestrel releasing intrauterine system ranks much higher than all other medical treatments when effectiveness, side effects, length of treatment, and acceptability are all taken into account.^{5 w3} In addition, the levonorgestrel releasing intrauterine system offers comparable improvements in quality of life and psychological wellbeing to hysterectomy.⁶ The second ranking treatments in the decision analysis were those that needed to be taken only during the days of heavy bleeding, such as anti-fibrinolytic drugs and non-steroidal anti-inflammatory drugs. However, the choice of medical treatment can depend on individual factors, such as requirement for contraceptives or wish to conceive, health status, whether menstruation is painful, and suitability of hormone treatments. The volume of evidence specifically addressing these factors has been minimal, although several Cochrane reviews have been published that summarise the evidence to date.^{w4-w9}

The surgical alternatives to medical treatment range from minor conservative procedures to hysterectomy. First (hysteroscopic) and second (non-hysteroscopic) generation ablation methods are a less invasive alternative to hysterectomy and are associated with high levels of satisfaction, but in a proportion of women surgery may be required repeatedly, and there is some risk of perioperative morbidity. Hysterectomy is the definitive treatment to stop heavy menstrual bleeding, with satisfaction rates consistently greater than 90%, but hysterectomy is a major operation with potential for serious morbidity and, rarely, mortality. The inconvenience to the patient and the cost to both the patient and the health services need to be balanced against the high levels of satisfaction that are reported after hysterectomy.

One of the main factors influencing treatment choice for heavy menstrual bleeding is whether the woman is referred from primary to secondary care. This often occurs when first line medical treatment is ineffective, but there are considerable variations in referral rates. When this happens, women may be reluctant to retry medical treatments.⁷ Moreover, women referred to hospital clinics have a 60% chance of having a hysterectomy.⁸

Evidence based guidelines for the management of heavy menstrual bleeding have been produced in New Zealand and the United Kingdom in the late 1990s.^{w2 w3 w10} Although changes in practice prescribing have been reported in New Zealand, hysterectomy rates have not changed as much as was hoped.⁹ Other factors such as funding arrangements and training may actually hinder the drive to reduce hysterectomy rates. Also, the prediction that the less invasive ablation techniques would replace hysterectomy has not materialised, and an increase in both types of surgery in the United Kingdom and United States in the 1990s implies that the threshold for surgical intervention for heavy menstrual bleeding may now be lower.¹⁰ It may be too early to ascertain whether the newer second generation techniques and the hormone releasing intrauterine system will have a significant

part to play. In New Zealand, public funding of the hormone releasing intrauterine system was not available until December 2002.

In spite of some lack of evidence for successful implementation of the guidelines, changes in practice have been reported in the United Kingdom after active implementation of evidence based guidelines. A trial in the United Kingdom compared the effects of an educational package based on principles of academic detail with no intervention in 100 practices in East Anglia.¹¹ The educational package resulted in fewer referrals and more appropriate prescribing patterns. Provision of more structured information to women themselves may also affect treatment choices. Another trial that randomised women to either a control group, a group with a structured information pack, or a group with the information pack together with a structured interview reported that women in the latter group were considerably less likely to undergo hysterectomy in comparison to the other groups.¹² Patients' satisfaction was higher and there were also cost savings.

These incremental changes in the care of women suffering from heavy menstrual bleeding are promising developments. Adoption of evidence based treatments for heavy menstrual bleeding will require the active implementation of guidelines (and acceptance of these by clinicians) and recognition of the role of a well informed patient in joint decision making. Further efforts should be directed into ensuring that women receive effective first line treatments in primary care, prior to their referral to secondary care.

Anne Lethaby *editor, Cochrane Menstrual Disorders & Fertility Group*
(a.lethaby@auckland.ac.nz)

Cindy Farquhar *professor*

Department of Obstetrics and Gynaecology, University of Auckland, 2nd Floor, National Women's Hospital, Auckland, 1005 New Zealand

Competing interests: None declared.

- 1 Prentice A. Medical management of menorrhagia. *BMJ* 1999;319:1343-5.
- 2 Higham J, Shaw RW. Clinical associations with objective menstrual blood volume. *Eur J Obstet Gynaecol* 1999;82:73-6.
- 3 Hallberg L, Nilsson L. Determination of menstrual blood loss. *J Clin Lab Invest* 1964;16:244-8.
- 4 Reid PC, Coker A, Coltart R. Assessment of menstrual blood loss using a pictorial chart: a validation study. *Br J Obstet Gynaecol* 2000;107:320-2.
- 5 An evidence-based guideline for the management of heavy menstrual bleeding. Working Party for guidelines for the management of heavy menstrual bleeding. *NZ Med J* 1999;112:174-7.
- 6 Hurskainen R, Teperi J, Rissanen P. Quality of life and cost-effectiveness of levonorgestrel-releasing intrauterine system versus hysterectomy for treatment of menorrhagia: a randomised trial. *Lancet* 2001;357:273-7.
- 7 Cooper KG, Parkin DE, Garrett A, Mea A. A randomised comparison of medical and hysteroscopic management in women consulting a gynaecologist for treatment of heavy menstrual loss. *Br J Obstet Gynaecol* 1997;104:1360-6.
- 8 Coulter A, Bradlow J, Mea A. Outcomes of referrals to gynaecology outpatient clinics for menstrual problems: an audit of general practice. *Br J Obstet Gynaecol* 1991;98:789-96.
- 9 Park S, Farquhar C. A survey of practice preferences and attitudes to the New Zealand guidelines for the management of heavy menstrual bleeding. *Aust NZ J Obstet Gynaecol* 2002;42:374-8.
- 10 Bridgman S, Dunn KM. Has endometrial ablation replaced hysterectomy for the treatment of dysfunctional uterine bleeding? *Br J Obstet Gynaecol* 2000;107:531-4.
- 11 Fender GRK, Prentice A, Gorst T, Nixon RM, Duffy SW, Day NE, et al. Randomised controlled trial of educational package on management of menorrhagia in primary care: the Anglia menorrhagia education study. *BMJ* 1999;318:1246-50.
- 12 Kennedy ADM, Sculpher MJ, Coulter A. Effects of decision aids for menorrhagia on treatment choices, health outcomes and costs. *JAMA* 2002;288:2701-8.