Correspondence

To the Editor:

Your recent article by Ferris et al. (1988) invites comment and controversy.

The reasons for promotion of utilizing the public school system to screen for a condition that does not fulfill the criteria of the World Health Organization for an epidemiologic approach continues to escape me and other critics. The fact that more cases of scoliosis were discovered in the 10-year interval from the first screen of 100 new patients in London is not a scientific argument to perpetuate the practice.

One benefit of school screening for scoliosis has been to show us something about the natural history of the condition. If we accept that, it is enough without promoting expensive and duplicating medical care services and relegating public health responsibilities to the educational institutions.

What screening means to me is a failure of the medical care system to allow adequate resources to carefully examine *all* children at least once a year. Certainly, every patient who has scoliosis needs a thorough orthopedic and neurologic examination. Not all cases are idiopathic; all too often syringomyelia, spinal cord tumors, and even spondylolisthesis are missed only due to a cursory examination.

The argument that early brace treatment is effective does not seem to be convincing given the data and the defects in the reported results. For example, most all studies neglect the reporting of the menarche, which has a profound effect on the prognosis.

Furthermore, we are now told that curves up to 20° need only observation. If a 5° increase is noted, then, the curve is progressive and needs bracing of some sort. This brings us to 25° for treatment, and we know that there is a 7° error in measurement. Some have recently stated that curves over 35° carry a bad prognosis if the Risser sign is less than 3+ and the menarche has not occurred. Others say the limit of bracing is 40. Either way, the bracing interval is only 15° at most.

Yet, at the same time as we see a wide variety of orthoses, all claiming efficacy whether worn full time, part time, or at night only, the scoliosis centers have kept up their case load of operations ranging between 17 and 30 percent of all the patients.

Finally, screening of any kind should not be the responsibility of the school system. Schools are institutions for learning. They are not public health clinics (Bleck 1987).

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The reason for utilizing British schools for screening for scoliosis is that all children have to attend school by law. This has already been used in this country for screening for tuberculosis; and if a child is to be examined by a doctor anyway, it is surely minimal additional effort to look at the spine. We would suggest to Dr. Bleck that many activities take place in English schools and to restrict them to "learning" is narrow minded. We have no argument with him with regard to physical examination etc. We merely point out that our paper was restricted to adolescent idiopathic scoliosis, the commonest diagnosis in our centre.

Dr. Bleck has misunderstood our study. There is no policy of screening for scoliosis in this country. Increased awareness, we believe, has increased the proportion of cases that were picked up by schools that are far sighted enough to screen for this. Dr. Bleck ap-

pears to have strong personal views on screening that he has not backed up with hard facts.

We have not argued the case for or against the efficacy of brace treatment. Rather, we stated that "providing it is effective" early diagnosis of scoliosis is desirable; this important reservation has been discussed by one of us (Edgar 1985).

Dr. Bleck is writing with reference to his own country. Quite what benefit would accrue from screening all children annually is questionable. Indeed for what is he proposing, they should be screened? In our country children are not screened in their teens by their general practitioner; the only time all the children are compelled to attend anything is school.

We are happy to conclude that the size of the curvature at the time of referral has changed, probably as a result of school screening, and also that the pattern of referral has markedly changed. There are nearly three times as many people picked up with a curve as a result of school screening than previously.

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To the Editor:

A few years ago, school screening of scoliosis was generally accepted and was introduced in many countries. Even in some countries the recommendation was nationwide. However, during the past few years, screening of scoliosis has been criticized; like Dr. Bleck, some have even suggested that it should be discontinued.

The main reasons for this negative attitude are the following ones:

1. We do not know the natural history of structural scoliosis.

2. Widely used programs show that the vast majority of children found positive will never require any treatment.

3. Screening may lead to an unnecessary number of radiographic examinations and therapeutic procedures.

4. We do not know whether or not the cost of the screening, in terms of money and anxiety, is justifiable.

5. Finally, screening can be accepted only if it leads to an improvement of the natural history.

What do we really know about this, today?

Early diagnosis and bracing of scoliosis has been shown to decrease the number of cases needing surgery by stopping progression at 50° or more (Torell et al. 1981). On the other hand, it has been suspected that mild cases of scoliosis have been treated unnecessarily (Miller et al. 1984).

The increased risk of complications of blood transfusions (hepatitis A and B, AIDS, and non-A and non-B hepatitis) forces us to avoid surgery as much as possible. Some of us can still remember the prescreening 70–90° curves. Today, curves are seldom more than 50–60° at operation.

Dr. Bleck questions if screening is justifiable at all; and if so, he assumes that it is the pediatrician who should screen. But this is actually already the case in Sweden. Dr. Bleck assumes that bracing cannot alter the natural history of scoliosis. But there are really a number of papers showing that the introduction of brace treatment actually decreases the number of cases needing surgery and also prevents moderate curves from further progress, even after the cessation of the bracing period.

We have to agree that some cases are treated unnecessarily, but this risk is decreasing with increased knowledge of the natural history of the idiopathic scoliosis. If full-time or part-time bracing is to be recommended has not been clarified yet.

Dr. Bleck also assumes "that screening of any kind should not be the responsibility of the school system." I disagree, and I believe that the only effective and economically justifiable screening program is that done within the school system.

Finally, Dr. Bleck assumes that screening of scoliosis is not economically justifiable. This has been analyzed in Canada (Laever et al. 1982) and in Malmö (Montgomery et al. 1988). A conventional clinical screening program was of no economic gain—the number of cases being operated on decreased, but the cases being referred, radiographed, and braced increased. On the other hand, with the introduction of a screening technique allowing documentation, for example, moiré topography or the scoliometric technique according to Burwell et al. (1988), a definite decrease of referred cases was seen.

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To the Editor:

In the discussion on scoliosis school screening, costs and benefits, I tend to take an intermediate position between those expressed by Doctors Bleck and Willner. In this respect, I would also refer to the Symposium on School Screening for Scoliosis (1986), where several authors clearly point out that the final answer is not yet in, nor has cost effectiveness been proven. This is, of course, mainly due to the fact that there are too many false positive results from screening, as is also evident in the largest series so far presented (Othsuka et al. 1988) – 1.24 million students were screened over an 8-year period.

The effectiveness of our bracing programs has not yet been established, and none of the cost-benefit studies reported to date have taken into account the already known fact that around 20 percent of those braced for curves above 30° fail their brace treatment and go on to surgery anyway.

One other thing, rarely if ever discussed, concerns the differences in patterns of health-care delivery in various countries. The referral patterns, the number of visits to physicians, and the legal climate are all things that must be discussed in conjunction with the whole issue of screening.

The reader is referred to a monumental work and guidelines published by the Canadian Task Force on the Periodic Health Examination (Spitzer 1979).

From the local Malmö perspective, where a devoted screener in the nonlegal adversary climate of the Swedish medical system has direct access to a scoliosis surgeon, who has strict indications for a good bracing program, the results cannot be the same as in California where a multitude of practitioners follow patients for a rather long period of time with several radiographic examinations and the like to protect themselves against legal suits.

Everyone, however, is in favor of school screening being performed as in Malmö because that is the only way we will know something about the natural history and the risk of progress from milder curves up to at least 30°, whereas randomized studies on bracing or no bracing will eventually determine the progression rate of more severe adolescent curves exceeding 30°.

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