

# Scoliosis

## A need to screen children



*A new device which facilitates the early detection of scoliosis in school children is being tested in Ottawa, Toronto and Edmonton. Though there is no cure*

*for the disease, early detection is vital to limit its disfiguring effects.*

Scoliosis, a lateral curvature of the spine, has afflicted mankind since antiquity. About 2,300 years ago, Hippocrates described several types of spinal deformities and, in the second century A.D., Galen coined the term scoliosis for the disease as we know it now. Until quite recently, little if any progress has been made in the treatment of this debilitating disease. Now, thanks to the dedication and tireless efforts of orthopedic surgeons and other groups around the world, the future looks more promising for scoliosis sufferers.

A relatively common disease, scoliosis afflicts 10 per cent of children in the 10 to 13-year age group. It actually starts at an earlier age, but cannot be detected readily until the onset of the adolescent growth

sprint. For most scoliosis sufferers, the curvature is minor and causes no problems, but one or two per cent do have a serious curvature which, if untreated, becomes more deformed with age. Left untreated long enough, serious deformities can lead to a variety of back and internal problems, even premature death.

Scoliosis is grouped into three forms based on its source. Structural scoliosis is caused by either congenital deformities of the spine itself, or can be a secondary result of muscular diseases — such as muscular dystrophy — or muscle damage due to injury. Another form, functional scoliosis, results from some other deformity such as a short leg. But the most common form, ideopathic scoliosis — of unknown cause — accounts for 85 per cent of all cases.

Since there is no cure for scoliosis, effective methods for early detection are crucial to limiting its effects. If the disease is detected early enough — while the spine is still developing — not only can major surgery be avoided, but the child can be spared serious physical and psychological scarring.

Until recently, no major concerted

effort has been made to screen children for scoliosis. There are probably several reasons for this: successful therapeutic techniques are only now gaining widespread recognition; doctors were unaware of how widespread the disease was; and the usual technique for scoliosis detec-

**Artist's drawings explain how moiré fringes arise. If you step in front of the screen, you see horizontal shadows cast by the strings in the screen. Now, if you step back and look through the screen, you see moiré fringes created by the combined effect of the shadows and the interruption of the light reflected from the back. The insert shows how the interruption of the original or incident light and the reflected light creates the dark zones, or moiré fringes. All the points in the same contour zone are connected. (Drawing: John Bianchi)**

**Explication à l'aide de dessins de l'apparition des franges moirées. En se plaçant à côté de l'écran on peut voir l'ombre projetée par les fils horizontaux de l'écran. En se déplaçant un peu et en regardant à travers l'écran, on voit les franges moirées résultant de l'effet combiné des ombres produites par les fils et de l'interruption de la lumière réfléchiée par le dos. Dans le petit cadre qui a été inséré on peut voir comment l'interruption de la lumière incidente ou originale et de la lumière réfléchiée produit les zones foncées, appelées aussi franges moirées. Tous les points de même niveau sont reliés. (Illustration: John Bianchi)**

