

Injuries from land mines

Doctors should work for a ban on these indiscriminate weapons

For the past 25 years land mines have ravaged rural communities in some of the poorest countries of the world. This manmade epidemic went largely unreported until early 1988, when relief workers drew attention to the thousands of limbless victims of mines in Afghanistan and Cambodia. Now, antipersonnel mines are injuring large numbers of civilians each year in Burma, Mozambique, Ethiopia, Somalia, Iraq, Nicaragua, and Angola.

The first use of antipersonnel mines dates back to the second world war, when German and allied troops used them to prevent enemy soldiers from removing larger antitank mines. In the late 1960s the United States introduced a new class of antipersonnel mine, scattered from the air and known as remotely delivered mines or "scatterbabies," to stop the flow of men and material from North to South Vietnam through Laos.¹ When stepped on, the device, weighing only 20 g, could tear off a foot. Even today these mines continue to take a toll of lives and limbs among Laotian farmers.

Further technological advances made antipersonnel mines much easier to hide than to find. Modern mines are often all but undetectable by the usual metal detection gear. Some antipersonnel mines are about the size of a tobacco tin, so a soldier can easily strew scores of them during a single patrol.

What makes land mines so abhorrent is the indiscriminate destruction they cause. Unlike bombs or artillery shells, which are designed to explode when they approach or hit their target, mines lie dormant until a person, a vehicle, or an animal triggers their detonating mechanism. Mines do not distinguish between the footfall of a soldier and that of a child. Mines recognise no ceasefire, and long after the fighting has stopped they can maim or kill the children or grandchildren of the soldiers who laid them.

Those civilians most likely to encounter antipersonnel mines are the rural poor who live far from proper medical facilities.² Peasants foraging for wood and food or tilling their fields are particularly at risk. Children herding livestock are vulnerable as they often traverse wide tracts of land in search of fresh pastures.

Even when civilians injured by mines reach medical facilities they often fail to receive proper care because blood and medical supplies are unavailable. Victims of mine blasts are also more likely to require amputation^{3,4} and remain in hospital longer than those wounded by other munitions.⁵ In many cases amputation is required because those helping the victims fail to loosen tourniquets on the wounded limbs at regular intervals.

Land mines, as indicated by Coupland and Korver (p 1509),⁶ have ruinous effects on the human body. They drive dirt, bacteria, clothing, and metal and plastic fragments into the tissue, causing secondary infections. The shock wave from an exploding mine can destroy blood vessels well up the leg, forcing surgeons to amputate much higher than the site of the primary wound.⁷ Field surgeons report that plastic fragments from the casing of some mines become embedded in tissue or bone.⁸ Because these fragments are difficult to

detect by x ray examination they must be located by eye and extracted. When such fragments are overlooked they can lead to serious infections, including osteomyelitis.

In many developing countries mine amputees leave hospital without artificial limbs and return to their villages with little hope for the future. There are few, if any, rehabilitation centres, and in agrarian societies, where muscle power means survival, amputees are often viewed by their families and communities as unproductive and simply another mouth to feed.

Given a situation so grave what can the international medical community do to prevent the use of land mines? Casualties can be reduced by clearing and destroying mines already placed and by imposing an international ban on their future use. A campaign for a ban has recently been started by two organisations based in the United States, Physicians for Human Rights and Human Rights Watch. The medical profession could lend its weight to this lobby by studying and publicising the effects of mines on rural communities throughout the world. Individual doctors and medical agencies, such as the International Committee of the Red Cross, Médecins Sans Frontières, and Médecins du Monde, can help future mine clearing efforts by keeping records on injuries caused by mines, including the date and place where they occurred.

The task of ending the use of land mines will not be easy. Government and private arms manufacturers, particularly in Europe, have invested heavily in their production to meet the demand from government and rebel armies worldwide. Governments and industry, however, are not immune to international opinion and pressure. Medical professionals can help document the physical and mental suffering exacted from civilians by land mines. They can also ensure that this information becomes public knowledge in countries that pay for their use.

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