

# The medical consequences of nuclear War

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The following data is a compilation of articles provided by Bail Higgins, Project Ploughshares, Saint John, N.B.

**NOTE:**  
1 megaton = 1,000,000 tons of TNT  
Hiroshima bomb = 12,500 tons of TNT

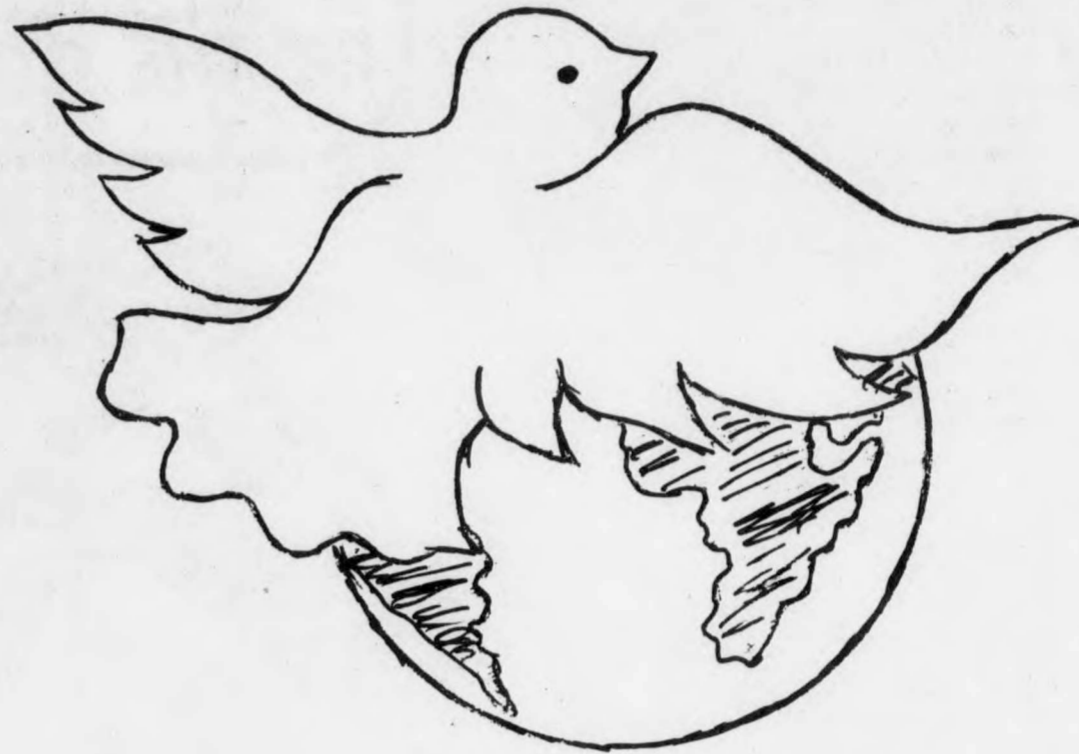
The medical consequences of nuclear war have long been topics of concern for physicians and lay people, though few really understand the facts of nuclear warfare and its ramifications.

For example: one single 20 megaton bomb exploded at the ground level on a North American city would produce a fireball 2.41 kilometers in diameter and 11,000,000 to 16,000,000 degrees Celcius vaporizing everything. At 9.65 kilometers from the epicentre a silent heat flash moving at the speed of light would kill everyone and melt glass. Supersonic shock waves and wind would flatten buildings. At 16.09 kilometers there would be 50% dead or injured by direct heat and blast. Random spontaneous fires from

gas lines and oil storage tanks would coalesce into a firestorm of 2588 kilometers square, extinguishing life. Survivors would die of radiation up to 161 kilometers downwind. It is likely that 1,000,000,000 people would die in the early hours or days of the megadeath war.

After such an attack perhaps only 10% of the physicians in an area might be uninjured - one to 1700 acutely injured persons. If each physician spent only 10 minutes on each patient and worked 20 hours a day, it would take 14 days for each casualty to be seen for the first time. The task of caring for severely burned survivors would be immense. One extensively burned patient can require 100 or more units of plasma and extensive skin grafts; the complex medical facilities needed would be destroyed, and there would be millions of such patients in an attacked country.

And afterwards? Food, air and water would be contaminated. There would be millions dead - more than 150 million in an all out nuclear attack on the United States. Casualties in excess of 40 million are expected in



the United Kingdom where recent health service "plans" for survival included widespread shooting of casualties according to J. Gleisner, from the article entitled, "Controlling" the sick will mean shooting them".

(A common misconception is that Canadian cities would be little affected. It is not certain whether the small Canadian cities are targeted - but every American city with a population of at least 20,000 is. We would probably be affected by the airburst of antimissiles, possibly affected by inaccurate Soviet missiles and certainly severely hurt by the fall-out and secondarily by the immense social disruption to our south.)

A dust and nitrogen oxide injection into the atmosphere might modify the climate; perhaps severely and probably in the direction of cold. For two years or more there would be a 50% reduction in ozone in the atmosphere; there would be significant contamination of food crops for years to come. The complex effects of even minor climatic change, and severe disruption of the organization of civilization in North America, the world's bread basket, would almost certainly lead to worldwide famine in a world already short of food.

The Congressional Office of Technology Assessment projected that of the 18,000 hospital beds in and around Detroit, no more than 5,000 would remain relatively undamaged. Only 1% of the injured would be able to be accommodated. Not only would medical facilities be destroyed, but medical personnel would be among the

dead and wounded. After the nuclear blast at Hiroshima, 65 of the city's 150 physicians were killed outright, and most of the remainder were wounded. Of the 1,780 nurses, 1654 were dead or too badly injured to work.

It is clear that the vast numbers of severely burned and otherwise injured victims would be looking in vain to the surviving medical care professionals for treatment. The demand for treatment would rapidly surpass the sorely depleted supplies.

An example of the personnel and materials required to care for one patient suffering from third degree burns over 85% percent of his emphasizes the impossibility of caring for a city full of burn victims.

Howard Hiatt, M.D., F.A.C.P., Dean of the Harvard School of Public Health, has described such a case; admitted to a special burn unit a 22-year-old man received 281 units of plasma, 147 units of packed red blood cells, 37 units of platelets, and 36 units of serum albumin. He underwent six separate surgical procedures. And, despite these ministrations from a score of highly trained specialists, the patient died on the thirty-third day. A single nuclear blast would result in tens of thousands of similar severe burn injuries.

The health care system would be assaulted also by the need to provide short-term treatment for untold numbers of fractures, organs ruptured from excess pressure, hemorrhage, and other trauma from flying glass and debris and long-term treatment for the injuries from radioactive

fallout. The great majority of those exposed to radiation would die, either from central nervous system syndrome or from vomiting, diarrhea, hemorrhage, and septicemia. Some people would, however, survive to seek treatment for their stress, trauma, fatigue, and burns. They would suffer from contamination wounds, increased skin cancer, degenerative disease, accelerated aging, and increased incidences of infertility, congenital malformations, still births, neonatal deaths, and genetic disease.

Additionally, radiation-resistant strains of bacteria, fungi and viruses might multiply and mutate, spreading uncontrollable infestations leading to epidemics of such diseases as plague, hepatitis, polio, encephalitis, typhoid, and dysentery.

These facts argue that medical disaster planning for nuclear war is futile. There is no possible adequate medical response to a situation where hundreds of thousands of people would be injured and ill, most hospitals destroyed, most medical personnel killed, and most medical supplies unavailable. According to Dr. Hiatt nuclear war is "the great public health hazard of all time" and as such, its prevention is imperative. Dr. Ian Carr, professor of pathology at the University of Saskatchewan in Saskatoon agrees stating: "If the arms race is not halted nuclear war is almost inevitable. If we protest, we may survive; silence is quiescence in 1,000 million deaths. The prevention of the 'last epidemic' is medicine's and mankind's greatest challenge."

## Get involved

### More effort needed

By RICK HUTCHINS  
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When one considers the issue of nuclear disarmament, it would seem logical that the urgency of this world dilemma would be sufficient to entice a large number of students to take action and voice their feelings. On the campus of UNB unfortunately it seems a "few" dedicated and concerned students have become the sole voice of discontent, and have organized themselves accordingly. The most vocal and consistently active group on campus is WORD (World Disarmament), a small group of dedicated believers. Without a much more supportive student body the efforts of such groups are minimized and their impact on the community lessened. We must, as a student body become more attuned to the magnitude of this issue. Groups such as WORD exist

in communities all across Canada and are constantly recruiting new members. It is not sufficient for a small vanguard of hard-working, peace protesters to change the policies of governments and political leaders. What we need is for more students to get involved. This week's edition of the *Brunswickan* is proof that there are a concerned number of students, willing to supply time and effort in the pursuit of more public awareness. Students can begin to show more concern by lobbying members of parliament and getting involved in some form of organization. Remember, belief in the evils of nuclear weapons is not sufficient to bring about change, what is needed is action and commitment. As students at UNB a much more unified voice should be heard and we must work together toward this end. Show your concern. GET INVOLVED.