

FACT SHEET

 ON THE EFFECTS OF THE ATOM BOMBS

 AT HIROSHIMA AND NAGASAKI

Because of the suppression of the pertinent information during the occupation of Japan, the world at large is little aware of the extent of the injuries caused by the Hiroshima and Nagasaki bombs.

Out of about two-thirds of a million people in both cities, over a quarter of a million died as an immediate or later result of the bombings:

	<u>Daytime Population</u>	<u>Deaths</u>
Hiroshima, 1945.....	400,000 200,000
Nagasaki, 1945.....	270,000 122,000

The injured will continue to suffer and die into the indefinite future.

Those who died and those who survived died from or survived in spite of the following injuries:

IMMEDIATELY RECOGNIZABLE INJURIES

I. Traumatic Injuries (those resulting from blows)

Blows from flying or falling building parts, especially glass fragments; broken machinery; and falling poles and trees caused gashes, punctures, shrapnel-type wounds, compression injuries and broken bones -- the gamut of traumatic injuries. Some wounds were immediately fatal. Every type of freak accident occurred. Within a radius of a mile, all wooden buildings collapsed. The occupants were buried under the collapsed roofs and walls, which caught fire and incinerated them.

In the chaos following the bombings, people lay for days with unset fractures and gaping wounds, bled to death, or died of internal injuries.

II. Burns

Records of 709 of the burn cases show the following percentages:

Hand.....	70%	Leg	30%
Face.....	70%	Foot.....	25%
Forearm.....	65%	Thigh.....	20%
Neck.....	45%	Back.....	8%
Upper arm and shoulder..	45%	Head.....	7%
Chest.....	30%	Abdomen.....	4%

The total of the percentages listed shows that these patients were burned on an average of four body parts. Those who were deeply burned on over half of the body area would ipso facto be moribund. However the depth varied from second degree to into the bone itself. Many burns were so deep the individuals died immediately. Some were charred to the bone, or vaporized so that only their twisted skeletons were ever seen again.

Eyes were liquified and ran down cheeks. The majority of the worst of the burn cases occurred within a two-mile radius. The living wandered naked in the oven created by the universal conflagration. Thirst from the loss of body fluids grew acute. For days there was little or no water. The unattended developed maggots in their burns.

Burns were of two types: flash burns, from the bright flash of heat and other radiation at the instant of the explosion; and contact burns, from flaming clothing or wood, or red-hot materials. Burns from clothing affected especially the neck and groin.

Among those who survived, nearly all burns healed within a year; but more than half of the burn cases developed what are called keloid scars. These are thick, rubbery growths of white or pink tissue at the burn sites, subject to infection.

Adolescents seemed particularly vulnerable to keloid scars. Plastic surgery, as in the cases of the Hiroshima Maidens, removed some of these mementos; in some instances they recurred under and at the border of the skin grafts. Within several years, more than half of the keloids were normalized. For those who retain them, they present a serious obstacle to marriage, employment and social acceptance.

III. Radiation Sickness

Ninety-five per cent of the people within a half-mile radius of the blasts who survived their other injuries died of radiation sickness. The rays destroyed body cells: caused their nuclei to degenerate and broke down their walls. (Many of the people near the center were "overkilled" by traumatic injuries, burns and radiation sickness.)

Six hundred rads caused death. Autopsies by a Japanese physician soon after the bombings revealed damaged bone marrow and lymph glands.

Those affected displayed an assortment of symptoms, depending on the dose of radiation and the stage of the illness:

malaise, vomiting, prostration, depressed white blood cell count, diarrhea, fever, coma, delirium, hemorrhages into skin, other hemorrhagic complications, temporary loss of head hair, ulceration of mucous membranes, breakdown of healing wounds.

Not all of these symptoms occurred in any single patient. They are listed in the aggregate to show the effects of radiation on the body.

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INJURIES TO EXPOSED INDIVIDUALS WHICH APPEARED LATER OR CONTINUED INTO LATER YEARS

I. Incapacitation

This category included crippling, mutilation, internal injuries, lowered resistance to sickness and apathy resulting from physical injuries.

II. Disfigurement

Mutilations from wounds such as gashes, fractures and burns; especially keloid scars.

III. Diseases

Leukemia, genital and other forms of cancer, radiation cataracts, asthma, anemia. Probable increase in liver, heart and kidney disease and in stomach ulcers.

IV. Premature Aging and Decreased Longevity

Although sufficient time has not elapsed to establish pertinent statistics in Hiroshima and Nagasaki, laboratory studies on animals indicate premature aging and decreased longevity from exposure to radiation; and that the decrease in length of life varies with the dose of radiation.

V. Sexual Injuries

Temporary absence or deficiency of sperm lasted one to two years and temporary cessation of menstruation from several months to a year.

VI. Emotional Injury

A preoccupation with death is evinced in the writings and culture of the survivors.

The relationship between radiation and aging, as indicated in Section IV, above, implies also a loss of bloom and of exuberance. The shock, the debacle and the following months of strain, thirst, hunger, exposure and brute competition for the necessities have also taken their toll from the joy of living.

The sexual injuries (temporary sterility, genetic damage etc.) are, of course, profoundly traumatic to those aware of them or in fear of them.

The loss of husbands, wives and children, the more terrible in so totally a family-oriented culture as that of Japan, has caused severe depression and withdrawal.

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INJURIES TO EXPOSED EMBRYOS

The embryo is extremely sensitive to radiation. Many pregnancies in heavily irradiated women resulted in the bearing of dead embryos or infants during the acute phase of the woman's radiation sickness.

Microcephaly (tiny head) was evidenced in children who had been embryos younger than four months at the time of the bombings. Some mongoloid idiocy was found.

Laboratory studies on animals have indicated that a variety of major genetic defects can be induced by radiation of embryos. Presumably many of these defective embryos died in the uteri of the sick mothers.

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INJURIES TO THE GENERATIONS WHICH WILL FOLLOW

A definite indication of genetic damage appeared in the statistics of the ratio of boys born to girls born, showing a decreased frequency of male live births. The female sex chromosome (X chromosome) is more vulnerable to radiation damage than the male sex chromosome (Y chromosome). Since the female bears two X chromosomes and the male an X and a Y chromosome, the X chromosome is recessive for the male. Recessive mutations tend more to lethality than dominant mutations. Therefore the loss of male births relative to female births from radiated mothers shows genetic damage.

Serious mutations produce individuals who die too early to reproduce or who are sterile; and these mutations are thus quickly but painfully eliminated from the human stock. Minor genetic defects, however, are passed on to countless generations, thus causing an immense aggregate of suffering to the human species.

Some geneticists believe that genetic damage is directly proportional to the amount of radiation received, and that even the smallest dosage is damaging.

SOURCES

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