Solomon glows with enthusiasm for radiation in low dosages ( its benefits). He has done other research showing that low dosages of radiation make people healthier than people avoiding all radiation. After all, nature gives us radiation naturally all over the place.

# Lawrence Solomon: Saving life and limb

[Lawrence Solomon](http://opinion.financialpost.com/author/lawrencesolomon/)  December 23, 2010 – 7:12 pm

**A decades-old treatment using X-rays may be more successful against gangrene than modern techniques**

It was too late to amputate – the fast-moving gaseous gangrene, which started with a knee wound after an automobile accident, had already reached the 21-year-old patient’s groin. The surgeon, Dr. J.R. Dwyer, approached Dr. James Kelly in the X-ray department. Could he somehow help?

As recounted by Dr. Kelly: “When we saw the patient with Dr. Dwyer and other consultants the morning after he was admitted, he appeared far beyond the reach of any surgical procedure, was comatose and apparently, as one surgeon expressed it, ‘regardless of what is done he will die.’ ”

This was Aug 28, 1928 in St. Catherine’s hospital in Omaha, Neb. In the 1920s, radiation was often used to treat patients with infections but never an infection as serious as gas gangrene, an especially virulent form of gangrene. With no other options left, Dr. Kelly decided to treat the patient as he would others suffering infections, with two treatments of low-level radiation a day. He administered the first treatment immediately.

“We returned to the hospital that evening to treat him again. We were surprised to find him alive, but our real surprise came the following morning when we found him sitting up in bed. He had completely recovered from the coma, and his general condition was much better. We treated him twice that day and finished the series of treatments during the next few days. During this time all evidence of the disease disappeared and the tissues improved considerably. Amputation was not necessary.”

Dr. Kelly didn’t attribute this seemingly miraculous recovery to divine providence, although some of his colleagues might have been tempted to, given the patient’s Lazarus-like recovery and the hospital’s provenance — St. Catherine’s Hospital was a religious institution, founded by the Sisters of Mercy, and affiliated with Creighton University School of Medicine, founded by Jesuits. Instead Dr. Kelly realized that the medical uses of radiation held more potential than the medical community had as yet understood.

The 21-year-old he had just saved — a young farmer — was the first known case of radiation treating a case of gas gangrene. The subsequent five — all at the same hospital — would be greeted with much skepticism. All six cases are set out in [Roentgen Treatment of Infections](http://ep.probeinternational.org/1942/12/01/roentgen-treatment-of-infections/), a 1942 medical text written by Dr. Kelly, then professor and director of the department of radiology at Creighton, and his colleague, Dr. Arnold Dowell.

The next use of X-ray therapy came two full years after the 21-year-old farmer had been treated. In August 1930, a 10-year-old boy developed gas gangrene after he had stepped on a nail. When anti-tetanus serum failed, doctors at the hospital turned to radiation, despite the recommendation of several consulting doctors who favoured amputation. The boy quickly recovered without loss of limb. November 1930 saw radiation save a 23-year-old labourer who was admitted to the hospital after a dynamite blast at his work site. In January 1931 the hospital received a 42-year-old merchant — a gunshot victim whose shattered leg required amputation below the knee. Four days later, the radiation had entirely cleared away the infection. In April 1931, after a 61-year-old injured his ankle area in a fall from a tractor, the hospital performed an amputation, and then another when the infection spread higher up his leg. Only when the infection remained did the doctors try X-ray therapy. The patient promptly recovered.

The last of the six, involving an eight-year-old boy with a fractured left forearm, came in June 1931. It involved a moral quandary: Surgeons at the hospital wanted to operate — they had not heard of X-ray treatment for gas gangrene, which appeared nowhere in the literature, and they feared for their own reputations should the child die. Nevertheless, the surgeons reluctantly acceded to requests by others at the hospital who recommended X-ray treatment. The X-rays worked and the surgeons “have since that time been among the strongest advocates we have for X-ray therapy in infections,” the book reported a decade later.

By the time of the book’s publication, X-ray treatment for gas gangrene was no longer unknown in the medical literature. Dr. Kelly had presented his first six cases to the Radiological Society of North America in December 1931, where his success rate made a great impression, leading to the use of X-ray treatment by others — until that time, conventional treatment of gas gangrene claimed half the lives of patients, and cost most of the other half a limb. By 1941, Dr. Kelly’s Twelve-Year Review of X-Ray Therapy of Gas Gangrene, published in the peer-reviewed Radiology, the pre-eminent journal in the field, reported that radiation provides a success rate of 85% to 95% in the case of gas gangrene infections. In all, by 1941 21 published reports had appeared on the X-ray treatment of gas gangrene infections, including the Journal of the American Medical Association and the British Medical Journal. All but one of the reports were favourable.

Yet X-ray therapy soon disappeared, as if down a memory hole, from the prescriptions doctors might choose. The advent of wonder drugs — first penicillin and then numerous other antibiotics — partly explains the disappearance. So does the devastation at Hiroshima and Nagasaki, which led to a worldwide phobia of all things radioactive, even X-rays at low doses.

But the miracle drugs have their limitations in the treatment of gas gangrene. Of those with an infected limb, about 20% require amputation, and about 12% die. A larger percentage — about 67% — die when their torso is infected. In all, gas gangrene kills some 2,000 people in North America each year. Because this disease is so fulminating — typically killing within two days — desperate doctors often turn to experimental controversial treatments such as Hyperbaric Oxygen Therapy where available — this despite HBOT’s unproven results, negative side effects and expense.

X-ray therapy, in contrast, had unmatched results, no known side effects, low cost and ubiquity in its favour — it is available wherever an X-ray machine exists. The radiation treatment that disappeared down medicine’s memory hole should be resurrected and researched anew. It could be a blessing to many thousands who now lose their limbs or their life each year.

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