

the nerve, have each been tried with variable degrees of success. Amputation offers the most rational chance for recovery; but it needs to be done early and in such a place and manner as to ensure ablation of all the diseased portion of the irritated nerve or nerves. Excision, or stretching, of the nerve, requires to be done before the central nervous organ becomes too much disorganized for rapid and complete recovery. Mr. Timothy Holmes makes a sweeping statement regarding the treatment of tetanus, saying that, "irrespective of these surgical measures, the treatment of tetanus is entirely empirical and completely unsuccessful." Nearly every drug in the pharmacopœia has been tried; some of them, at times, with an appearance of success, but at other times with decided failure. Cases that have recovered have done so under very different remedies, and giving one the impression that the strength of nature had struggled for the mastery, and had been successful, regardless of any medicines which may have been administered. Chloroform, chloral hydrate, bromide of potassium, cannabis indica, curara, nicotine, lobelia, eserine, aconite, warm baths, cold baths, ice to the spine, and many other remedies, have all been tried, without any one of them having shown itself a specific, or even a reliable remedy, in this disease.

The typical case with recovery, which I purpose to bring before this meeting, was that of (J.B.) a man æt. 20 years, a native of Kingston, and a laborer by occupation. He is stout-looking, 5 ft. 8 in., high, and weighs 185 lbs.; but he is of that type, called of old, the phlegmatic temperament, and his muscles are flabby, his animal spirits sluggish, and his strength not as great as his appearance would indicate. His father is alive, and a confirmed asthmatic; his mother died from heart disease some years ago. On the 10th of January last, while stealing a ride from Toronto to Kingston, on a freight train, the toes on both his feet were frozen, the left one being more severely damaged than the right one. On the 11th he was admitted into the Kingston Hospital, complaining of great pain from the frostbites, and suffering weakness and nervous shock. He was given a warm bath, put to bed, a carbolated linseed meal poultice applied to the frozen parts, and hot animal broths, hot thin gruel, tea and milk, admini-

stered internally with full doses of morphine, given hypodermically, often enough to relieve pain. Supporting treatment with rest in bed and poulticing, were continued, and, notwithstanding this, eleven days elapsed before the line of demarcation was apparent on the left foot; and during all this time he was constantly complaining of severe pain in the left foot (the worst frozen one), and occasionally becoming so frantic from pain that he could scarce obtain ease in any manner. The sloughs on the toes of the right foot were not of sufficient extent to need amputation; the left one only requiring this. On the 22nd of January, I operated, removing the left great toe at the metacarpophalangeal joint. The operation was done under perfect antisepsis, and nothing was apparent to indicate anything but speedy recovery, such as has always taken place in amputations of extremities in similar cases in our wards. But the sequence was not of the usually favorable character; the pain continued to increase at the seat of the wound, to shoot up the front of the foot and instep, and into the leg, and thence upwards to the body. At the expiration of two days immense doses of morphine were required to procure ease, and he began to be restless and very greatly agitated. At this time he complained of pain in the head, but his temperature was not very much elevated, and his pulse but slightly quickened. On the morning of the 26th January, stiffness of the neck and difficulty in opening the jaws, slight spasms passing over him, like electric shocks, on the least provocation; an unhealthy appearance of the wound, pains radiating from it towards his body, warned us that we had to deal with incipient tetanus. From this time the disease developed rapidly, and exhibited in its course *all* the symptoms which have already been detailed, notwithstanding free purgation with calomel and jalap, large doses of bromide of potassium, a liberal use of morphine, and such nursing as his condition seemed to demand. As there was an irritation at the seat of the wound, which medicine could not reach, on the morning of the 31st January, nine days after the first operation, and five after the first symptoms of tetanus, I operated again, cutting as far back as the middle of the first metatarsal bone, and removing also the second toe at the metatarso-phalangeal joint. My idea was