

didn't I have that other person's death on my conscience? Wasn't I evading this issue by raising the wider question of choice between the welfare state and warfare state? As we battled for about half an hour before the cameras it became more and more obvious that this material was never going to be used. In television conclusions come first and the evidence is selected afterwards.

Sure enough, two days before screening I had a nice letter from the producer explaining that unfortunately they didn't have the time to include my interview, but he was sure I'd agree that my points were well put by others. I don't and they weren't. How I long for the day when an air vice marshal approaches me in the street, rattling a collecting box for the costs of megadeath. Dr Stoppard could then do an interview exploring his conscience.

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Weever fish sting

SIR,—In Cornwall we reckon to see several weever fish stings (6 August, p 406) in the summer; the first weever fish is usually a sign that the water is warming up and the visitors should soon be descending.

We find that treatment is extremely simple and not at all as complicated as Mr David Cain suggests; our receptionists are quite capable of dealing with most cases in the initial stages. All we have to do with 99% of weever fish stings is soak the offended foot in a washing up bowl or other suitable vessel containing water as hot as the patient can stand, and leave this foot soaking for some 15 minutes. At the same time an intramuscular injection of 10 mg of chlorpheniramine maleate (Piriton) suffices to save any after effects, with the added proviso that perhaps a couple of paracetamol tablets might help at bedtime.

In 15 years I have never yet seen a secondary infection occur and certainly would not subject the NHS to the expense of prophylactic antibiotics for such a minor condition. The chief cause of trouble is fright to the patient not realising what has happened. We find that the demonstration of a fish in a bottle of formalin reassures the patients; when they see the beast dead and in its bottle most go away quite happy. I also find it rather hard to agree with the suggestion of tetanus toxoid; the wound is almost certainly caused in water, which is extremely unlikely to contain any tetanus spores or bacilli.

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SIR,—I remember watching with disdain local Cypriots applying hot meat to the site of a weaver fish sting. How primitive—or was it? Apparently the weever fish venom is heat labile: dramatic pain relief is achieved by immersing the affected area in hot water. Similar injuries are frequently seen in the Red Sea, and during a recent visit last year I learnt that this symptomatic treatment is in common use.

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SIR,—It is my privilege to look after Sir Frederick Russell, lately director of the Laboratory of the Marine Biological Association at Plymouth, and he tells me that Professor Finlay Russell, then of California, discovered while working in his laboratory at Plymouth that the toxin of weever fish is extremely heat labile and that instant relief is obtained by immersing the stung part in hot water. It seems that this simple remedy is not widely known, at least to doctors, but there are several references to it in the published works, hot milk having been a favourite remedy at the turn of the century.

Present day fishermen in the North Sea, who occasionally get stung on their hands when emptying their nets, know at once to put the hand into the steam from the trawler's winch.

There is an interesting account of all this in volume 3 of *Advances in Marine Biology*.¹

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¹ Russell FS, ed. *Advances in marine biology*. Vol 3. London: Academic Press, 1965.

SIR,—I, and members of my family, have experienced weever fish stings while on holiday in Cornwall. The first episode led to a hospital visit with subsequent elevation of the leg for one week, parenteral analgesia, and daily intramuscular penicillin. We were therefore delighted to be told of the local treatment, which has proved effective on subsequent occasions.

The patient should dip the affected part into a bowl of very hot water, to which one tablespoon of Epsom salts has been added. The injured area is held under the water until the temperature becomes uncomfortable, when it is removed. This is repeated, keeping the water as hot as possible, until the discomfort subsides—usually about 15 minutes. The patient then suffers no more discomfort and may return to normal activities. I have successfully treated at least a dozen patients in this way.

Apparently the fish is found around and beyond the low water mark and the risk of a sting is therefore greatest during spring tides.

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SIR,—In Cornwall, stings from the venomous weever fish are common. On a popular beach, such as Sennen, near Land's End, the lifeguards deal with one or two stings daily during the summer. Only a small proportion of people stung arrive in the local hospitals. The treatment given on the beach, or in hospital, is the same. The toxin is heat labile, and the foot is immersed in water as hot as the victim can bear. Traditionally, magnesium sulphate or sodium bicarbonate is added to the water, but the benefit derived from this is not known. After this treatment, the pain usually subsides within minutes. Narcotic analgesics are not necessary. Weever sting sites do not become infected, and prophylactic antibiotics are not given; nor is tetanus toxoid. Cold applications worsen the discomfort.

One of my daughters was recently stung by

a weever fish and gave the following description.

"I was swimming at low tide on Sennen beach, the water was shoulder high and the sea bed sandy. I put down my legs to rest and the ball of my left foot touched the sand. Immediately I felt a sharp, pricking pain. I withdrew my leg at once and swam a few strokes away. My first reaction was that I had been cut by a small piece of sharp glass. I held my foot out of the water to inspect it, but all I could see was a tiny pinprick near my big toe. It was bleeding. In a matter of seconds the pain began to increase, and I had to leave the water. At first, I could walk normally, but the pain increased and extended throughout my foot until I could no longer put pressure on it. After three or four minutes I collapsed on the ground in intense pain. I clutched at my foot and my face was screwed up trying to fight the pain. It was agony; I could not move from this position or help myself. Several people rushed to help me, and I was carried to the lifeguards' hut. The lifeguards knew what to do, and my foot was placed in water as hot as I could bear. Some crystals were dissolved in the water. I looked at the ball of my foot and could see a tiny hair-like spike. I was told this was the spike, or sting, of the weever fish and it would be drawn out in the hot water. After two minutes in the hot water, the pain started to ease. Ten to fifteen minutes after the actual incident the severe pain ceased. I was left with an ache which developed into a numbness throughout my whole foot for about half an hour. The area around the actual prick was tender until the following day. The spike disappeared after five minutes in the hot water. The lifeguard told me that I was the third person that day to have had a weever sting. I was lucky—I had only one spike in my foot. Sometimes one is stung by all three spikes from the back of the weever and your leg can become completely numb. One man who had been stung had not been able to wear a shoe for two days afterwards."

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* * * We are grateful to the many correspondents who have written pointing out that weever fish stings can be treated with heat.—Ed, *BMJ*.

Cardowan coal mine explosion

SIR,—In their article on the Cardowan explosion (6 August, p 403) Mr C Allister and Dr G M Hamilton say: "Communications underground were non-existent," but this statement is flatly contradicted by the official report of the incident by HM Chief Inspector of Mines and Quarries and by the senior officials of the National Coal Board involved in the incident. In fact there was never any interruption of the normal underground communication system. Two local general practitioners, whose help was invaluable, and two National Coal Board doctors were at the pit top within the shortest possible time, shortly followed by a third National Coal Board doctor and two state registered and experienced occupational health nurses, one in the colliery medical centre and one at the pit head who recorded preliminary details of the casualties as they came to the surface. Communication with Glasgow Royal Infirmary by telephone was established, although, as in similar mining incidents, exact details of casualties could not be given.

Communication is a two way affair and it is to be regretted that Mr Allister and Dr Hamilton did not see fit to check their facts with the board's medical service before publication. They refer to three previous explosions. The Brookhouse Colliery disaster (1958) was a shaft accident and not an explosion, and there