remarkably clear. Taking a second swab, I notified Dr Litt, who on examination found it difficult to believe that this had been a diphtheritic case. He let the child remain, pending the result of the second swab. It was negative.

Precisely the same train of events occurred in three following cases—first swabs positive, follow-ups negative. Dr Litt, giving permission for the fourth child to remain in the home, remarked, "I suppose Dr Mitchell wants to prove the efficacy of his homoeopathy." Matron agreed, "Yes, I'm sure he does."

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¹ Mitchell, G R, *British Homoeopathic Journal*, 1957, 46, 46.

Trichinosis

SIR,—Dr P Bourée and others (21 April, p 1047) do not mention the large outbreak of trichinosis which occurred in England in late 1940 and early 1941, centred on Wolverhampton. This was reported by Sheldon.¹ At least 500 people appeared to have been affected. All had swelling of the eyelids, most had fever and muscular pains, and many had focal central nervous system manifestations. The incidence in women was four times greater than in men. There were no deaths. The source of the infection appeared to be uncooked sausage meat, and Sheldon discovered that a high proportion of working people in the Midlands, especially women, habitually ate sandwiches made with uncooked sausage.

The very day before the *Lancet* containing Sheldon's paper appeared I was baffled by a young man in outpatients with swollen eyes and muscular pains; so I asked a colleague to see him, who was equally baffled. The following morning the colleague threw the *Daily Mirror* across the breakfast table to me and commented, "There's the diagnosis of that boy," for the paper contained an account of Sheldon's article. This was the first and only occasion in my life when reading the *Daily Mirror*—or any other newspaper—enabled me to reach a diagnosis.

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¹ Sheldon, J H, *Lancet*, 1941, 1, 203.

SIR,—In the paper on trichinosis (21 April, p 1047) the authors state, with reference to horse meat being incriminated, that "this pathogenetic mechanism is surprising since the horse is strictly herbivorous." I myself have seen horses eating sheep's offal in the Middle East. The source of the horse meat in the reported attack was "from an Eastern country." I also understand that during the 1914-8 war meat was fed to horses in the British cavalry regiments on the Western Front.

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Pressure on the tracheal mucosa from cuffed tubes

SIR,—The well-documented fact that it is easier to damage the trachea with small residue endotracheal-tube cuffs than large is reiterated by Drs J M Leigh and J P Maynard

(5 May, p 1173). It must be borne in mind, however, that even the Lanz cuff, for example, can result in damage if there is a malfunction of the valve mechanism of the over-pressure safety balloon. Moreover, I do not feel that the authors' data (which relate to their pressure measurements in two patients) justify the conclusion that Lanz-type tubes are mandatory in all intensive care units. Other large-residue cuffs can be used safely by monitoring the intracuff pressures. In the case of the sponge-filled cuff (Kamen-Wilkinson) the size of the endotracheal or tracheostomy tube in relation to the size of the trachea is critical. Since this cuff functions like a spring a "large" tube in a "small" trachea results in high lateral pressure on the wall of the trachea.

It has been my observation in clinical practice that when large-residue cuffs are correctly adjusted a gas leak past the cuff will often occur at the peak of inspiration, particularly when high inflation pressures are used. Therein lies their safety. Thus when small residue cuffs are used a tiny audible gas leak past the cuff at a peak inspiratory pressure of not more than 20 mm Hg ensures that the mean pressure bearing on the tracheal wall will not exceed the intratracheal pressure. No attempt to produce a completely airtight seal at this or higher airway pressure should be made. The situation is analogous to that of an infant or child intubated with an uncuffed tube of appropriate size during positive-pressure ventilation. The final "seal" is effected by the mucous cushion secreted by the tracheal mucosa in response to the "foreign body." My clinical observations while using the traditional red rubber tubes in this fashion for many years without causing any significant tracheal damage have been supported by the histological findings of a controlled experimental study in dogs.¹ In the operating room setting at least, cuff management seems as important as cuff design.

It seems neither prudent nor practical at present to replace all tubes with small-residue cuffs, including endobronchial tubes presumably, by those with large-residue cuffs of the Lanz type for routine anaesthetic practice. Hard evidence to the contrary would be required before considering such a change and it is lacking.

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¹ Homi, J, et al, *British Journal of Anaesthesia*, 1978, 50, 434.

Remedy for excessive salivation

SIR,—The distressing symptom of drooling (5 May, p 1200), whether due to poor neuromuscular development, as seen in some mentally defective children, or acquired when a patient has sustained a cerebrovascular accident, may be treated with the help of a simple intraoral appliance,¹ similar to a removable orthodontic appliance.

The appliance, called a palatal training appliance, was designed originally to assist in soft-palate rehabilitation² as an aid to speech therapy, and consists of a loop of wire extending into the soft palate region. Personal experience gained from treating over 200 patients with palatoglossal incoordination suggests that it also appears to improve oral sensitivity, which is generally reduced in this condition, as well as improving the co-

ordination between the tongue, soft palate, and pharynx, which is necessary for a normal swallowing action. The appliance has proved useful for the treatment of patients with drooling problems after a cerebrovascular accident, based on experience of over 100 patients. The normal pattern is for salivation to increase somewhat for a period of about three weeks, but afterwards a rapid improvement occurs. Most patients may have the loop of wire removed after a few weeks, but a few seem to need it for a long while and request to have it replaced. It causes no inconvenience unless normal sensations return.

In the case of children, 45 of whom have been treated for drooling for a variety of reasons, the greatest success has been with the mentally subnormal group, and spastics have been the most difficult. I have not been able to determine which children have a good prognosis with this treatment, but because it is simple and easily reversible little is lost in trying, and some very pleasing results have been obtained.

The palatal training appliance may be constructed by dental surgeons in any branch of the Health Service and will enable the speech therapist to treat these patients more effectively. To try to help patients with poor lip posture, a lip seal reminder³ has been developed recently by the medical physics group in the physics department of Exeter University, and it appears to be a valuable aid to encourage lip closure. It has been designed to develop a tactile awareness in addition to a reminder, particularly when the patient is concentrating on other things. The device is not triggered by excessive salivation and only when the lips open does it sound the alarm.

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¹ Selley, W G, *British Dental Journal*, 1977, 143, 12.
² Tudor, C, and Selley, W G, *British Journal of Disorders of Communication*, 1974, 9, 117.
³ Available from Bio Instrumentations Limited, Holm-croft, School Road, Silverton, Exeter, Devon.

Heat stroke or hypothermia?

SIR,—I thank Dr T J Bassler (20 January, p 197) for his comments on our work related to heat stroke and distance running.¹⁻³ His points regarding the inaccuracies in reports of causes of death from ischaemic heart disease instead of heat stroke in distance running events are well taken.

Perhaps the most inaccurate and paradoxical report, to my knowledge, was when cases of death due to hypothermia were attributed to hyperthermia. In a report entitled "Jogging in Tasmania"⁴ the author noted the death from "heat stroke" of a young man jogging in the streets of Massachusetts on a hot, humid, and polluted day. He compared this with two deaths in the "Go as You Please" race from Hobart to Mount Wellington in Tasmania in 1912, implying that the cause of death was again heat stroke, unusual in the temperate climate of Tasmania. When I reviewed these reports, I found that three people had died on Mount Wellington, two in 1903 and a third in 1970. However, conditions were unlike the hot, humid summer's day in Massachusetts, for these races were conducted in the northern hemisphere's summer but the southern hemisphere's winter,