A NOTE ON MANDIBULAR FRACTURES DUE TO SPORTING ACTIVITIES

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Introduction
Some years ago the writer made notes on a series of his cases in which Army personnel had sustained fractures of the mandible while participating in organized sport. Since then he has either seen or received information on a considerable number of further cases presenting similar characteristics.

A selection of these cases is now briefly described and discussed, and suggestions are made as to the prevention of a proportion of such injuries.

Theoretical Considerations
Violence to the mandible, whether in the form of a blow or by forcible contact with an immovable stationary object, may, if of sufficient severity, cause a direct fracture at the point of contact and one or possibly more fractures indirectly elsewhere in the bone. Indirect fractures occur almost invariably at points of mechanical weakness, which may be either natural, as in the case of the condylar neck, developmental, where an unerupted tooth is occupying a bony crypt, or pathological, where the bone is weakened by the presence of an intra-bony cyst or soft-tissue tumour or where demineralization has occurred for various other reasons.

Case Notes
A selection of cases typical of such injuries is given below:

Case I: Tpr. Z. Aged 24. Presented with a fracture through the socket of $\sqrt{8}$ tooth, which was grossly carious. He had received a blow on the point of the jaw during a boxing match. A radiograph revealed a large, ill-defined area of bony absorption around the root apices of $\sqrt{8}$ tooth, which was presumably caused by a spread of infection from the carious lesion.

Case II: Gdsn. S. Aged 21. Sustained a fracture through the crypt of $\sqrt{8}$ unerupted tooth while boxing.

Case III: Cpl. H. Aged 29. Mandible fractured through $\sqrt{8}$ tooth region as a result of a blow when boxing. Radiographs showed $\sqrt{8}$ tooth to be impacted and unerupted and that there was a dentigerous cyst of considerable size in relation to the crown of this tooth.

Case IV: L/Cpl. R. Aged 22. Fracture of the mandible was present between $\sqrt{7}$ and $\sqrt{8}$ teeth, the $\sqrt{8}$ being unerupted. There was also a fracture of the right condylar neck. These injuries were received while boxing.

Case V: Sgt. C. Aged 28. This N.C.O. was kicked on the jaw when playing football, with the result that the mandible was fractured through $\sqrt{8}$ socket. $\sqrt{8}$ was the only remaining lower tooth and was grossly carious. Radiographs showed a considerable amount of bony absorption in the root apical region.
Mandibular Fractures due to Sporting Activities

Comment

All the above patients were young men taking part in organized games. The treatment of their injuries in all cases required immobilization of the mandible for periods of one month or longer, during which period they were unfit for normal duty.

In one case only was there a fracture at a normal place of weakness. In all the others injury was sustained through areas of abnormal weakness caused by the presence of unerupted wisdom teeth or bony pathology of dental origin. It may be assumed, therefore, that the trauma inflicted was generally not of great severity, and that fractures would probably not have occurred in the absence of points of abnormal weakness.

Conclusion

It would seem logical that some action should be taken to minimize the incidence of this kind of injury. It is therefore suggested that personnel who regularly take part in sporting activities, particularly boxing and football, should be given a thorough dental examination, including radiography of the mandible, followed by any treatment indicated to eradicate areas of weakness such as those described above.