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Unusual and memorable

Series editor: Gary D Wright

A 36 year old Royal Marine developed unilateral erosive nodal osteoarthritis after frostbite. In 1984 during winter military exercises while in Norway, inadvertently separated from his comrades, he lost his right hand inner glove suffering severe frostbite of his right (dominant) hand. Treated conservatively a slow recovery ensued with return of normal sensation. He first noticed discomfort in his right hand three months later. Fusiform deformities of the PIPJs associated with reduced flexion were noted and radiographs showed soft tissue changes only. In 1996, marked nodal osteoarthritis changes involving all the PIPJs and DIPJs of the right hand were noted (fig 1). Apart from mild arthralgia and slight diminution in the range of flexion he denied any specific problems and



continues to operate firearms without difficulty. Current radiographs (fig 2) demonstrate advanced osteoarthritic change, together with small punched out, well corticated, juxta-articular erosions involving all PIPJs and DIPJs of the right hand only.

Frostbite may result in localised osteoarthritis.^{1 2} Early radiographic changes typical of erosive osteoarthritis may develop within six months of frostbite,¹ while a long latency between insult and clinical presentation is also described.² In this case the evidence for causality incriminating frostbite is compelling with no alternative explanation nor history of trauma. The pathophysiology remains obscure: although freezing insult to the hyaline cartilage may be causative, the radiographic defects described suggest that subchondral ischaemic bone changes may be more important.³

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