

Bone Sarcomas: incidence and survival rates in England

Incidence Rates

Primary bone tumours are exceptionally rare and account for only 0.2% of all malignant tumours. Approximately 380 people were diagnosed with bone sarcomas annually in England between 1979 and 2007, but the total number of cases annually is rising as the population ages. Bone sarcomas affect males more than females, with a male/female ratio of 13:10.

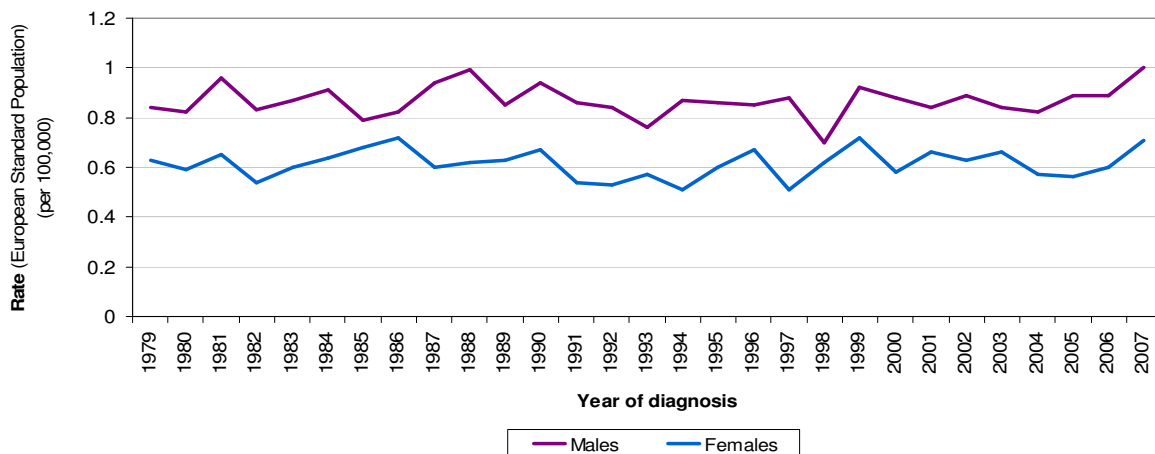
Although bone tumours are rare in adults, they represent 4% of all malignancies in children aged up to 14 years, with approximately 55 tumours diagnosed annually.

In 2007, 463 patients (266 male, 197 female) were diagnosed with bone sarcomas in England. Between 1979 and 2007, the age standardised incidence rates fluctuated around 0.85 per 100,000 population for men and 0.60 per 100,000 population for women (Figure 1). There is no significant increase in the incidence rates of bone sarcomas if age is corrected for.

KEY MESSAGE:

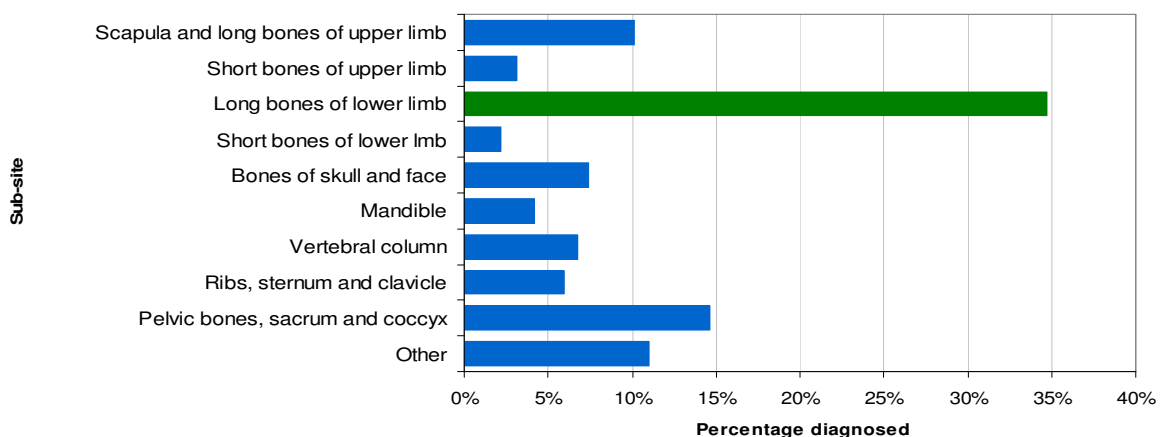
Bone sarcomas are more likely to affect males than females, with two peaks of incidence in early adolescence and the elderly. Osteosarcoma is the most common type of primary bone tumour. Survival rates have increased steadily over the past 25 years.

Figure 1 : Age standardised incidence rates of bone sarcomas, England, 1979-2007



More than a third (34%) of bone sarcoma cases occur in the long bones of the lower limb, which accounted for 50% of osteosarcomas diagnosed in England between 1998 and 2007 (Figure 2).

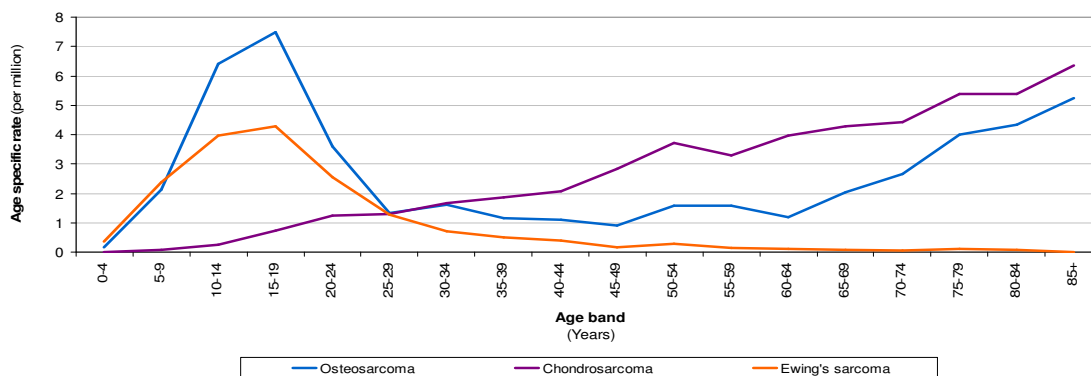
Figure 2 : Sub-site incidence of bone sarcomas diagnosed in England, 1998-2007



Types of Bone Sarcoma

The most common morphologies of primary bone cancer are osteosarcoma, chondrosarcoma, and Ewing's sarcoma. The age profile of bone sarcoma incidence varies between morphologies. Osteosarcoma and Ewing's sarcoma have a peak incidence in early adolescence, with more than 70% of Ewing's sarcoma cases occurring in people aged 30 and under. A small number of chondrosarcoma cases diagnosed are also in patients aged under 30 (Figure 3). There are an average of 131, 96 and 55 new cases of osteosarcoma, chondrosarcoma and Ewing's sarcoma respectively diagnosed each year in England.

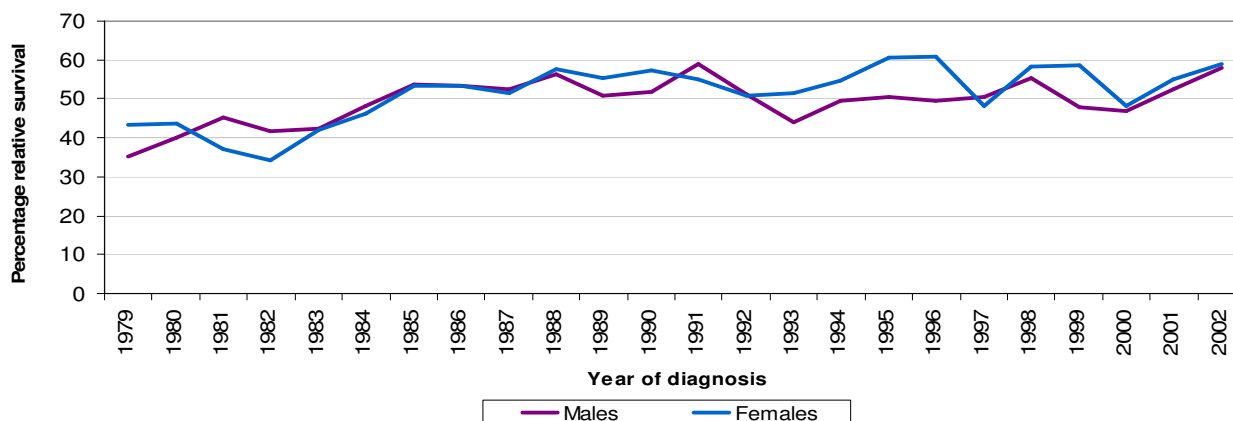
Figure 3 : Variations in age specific incidence rates with morphology, England, 1998-2007



Survival Rates

The relative survival for bone sarcomas diagnosed in England between 1979 and 2002 has increased from 35% to 58% for males and from 43% to 59% for females (Figure 4).

Figure 4 : Five year period relative survival rates* of bone sarcomas, England, 1979-2002



*The relative survival estimates shown are defined as the ratio of the observed probability of survival and the probability that would have been expected had the patients experienced the normal (background) mortality of the population in which they live, given the same distribution of factors such as age and sex.

FIND OUT MORE:

West Midlands Cancer Intelligence Unit

WMCIU is the National Cancer Intelligence Network lead cancer registry for sarcomas

<http://www.wmpho.org.uk/wmciu>

The NCIN is a UK-wide initiative, working closely with cancer services in England, Scotland, Wales and Northern Ireland, and the National Cancer Research Institute (NCRI), to drive improvements in standards of cancer care and clinical outcomes by improving and using the information it collects for analysis, publication and research. In England, the NCIN is part of the National Cancer Programme.