

# Bone sarcoma: incidence and survival rates in England

## Incidence Rates

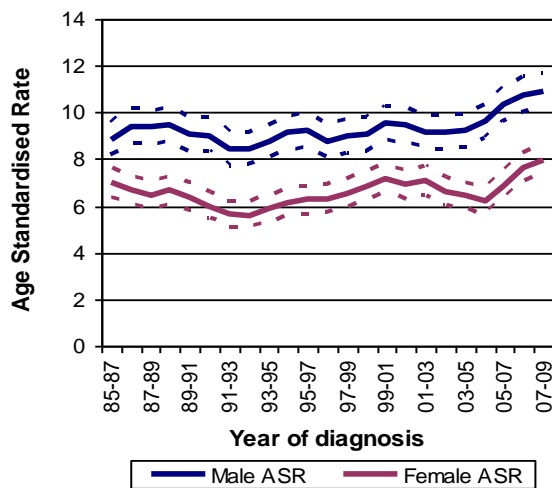
Primary bone sarcomas are extremely rare, and account for only 0.2% of all cancers diagnosed in England. The most common sub-types are osteosarcoma, chondrosarcoma, Ewing's sarcoma and chordoma. The most common anatomical site is the lower limbs. In total, 9,576 primary bone sarcomas were diagnosed between 1985 and 2009, 5,418 (57%) in men and 4,158 (43%) in women. On average, 380 people were diagnosed with primary bone sarcoma each year in England between 1985 and 2009, with 486 people diagnosed in 2008 and 437 diagnosed in 2009. The age standardised incidence rate of all primary bone sarcomas in 2009 was 9.4 cases per million population.

### KEY MESSAGE:

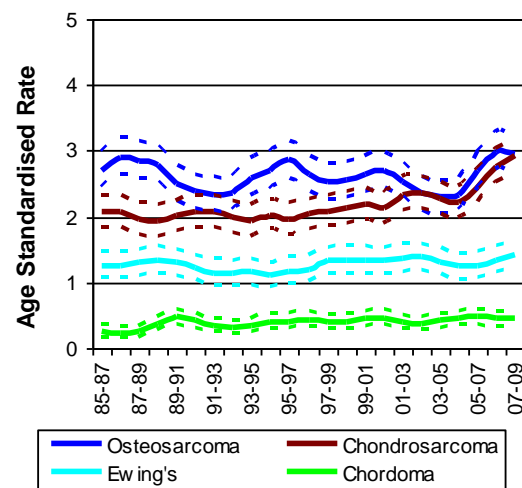
*Primary bone sarcomas are an extremely rare form of cancer, with an age standardised incidence rate of 9.4 per million in 2007-2009.*

*Five-year relative survival rates remained static at around 55% over the 25-year period studied.*

**Figure 1: Bone sarcoma 3-year rolling age standardised incidence rates (England, 1985-2009)**

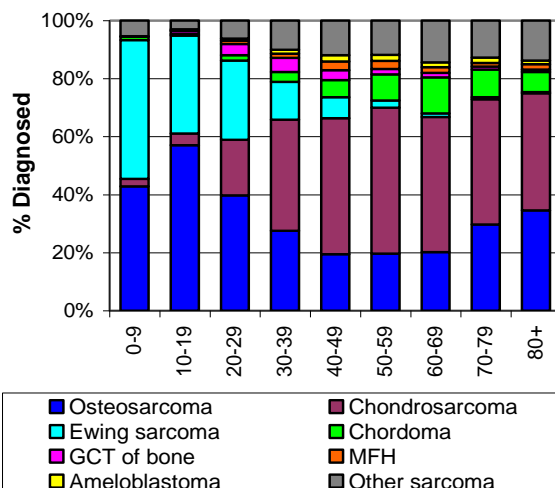


**Figure 2: Age standardised incidence rates of most common bone sarcoma variants (England, 1985-2009)**

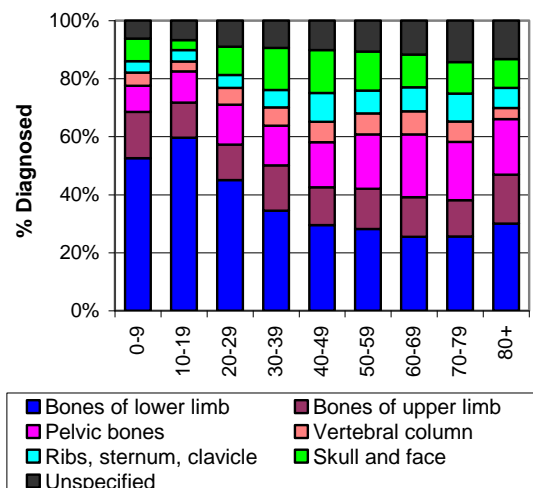


The most commonly diagnosed bone sarcoma sub-types vary according to age. Osteosarcoma and Ewing's sarcoma are the most common types in children and teenagers, while chondrosarcoma is more common in middle aged and elderly people. The anatomical site of diagnosis profile also changes with age, with elderly people more likely to be diagnosed in sites other than the lower limb.

**Figure 3: Proportion of bone sarcomas diagnosed by age group and morphology (England, 1985 - 2009)**



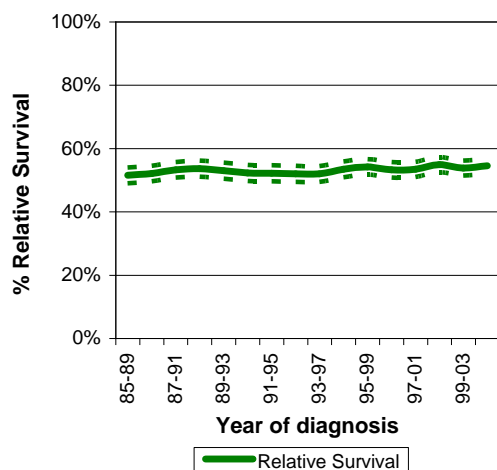
**Figure 4: Proportion of bone sarcomas diagnosed by age group and anatomical site (England, 1985 - 2009)**



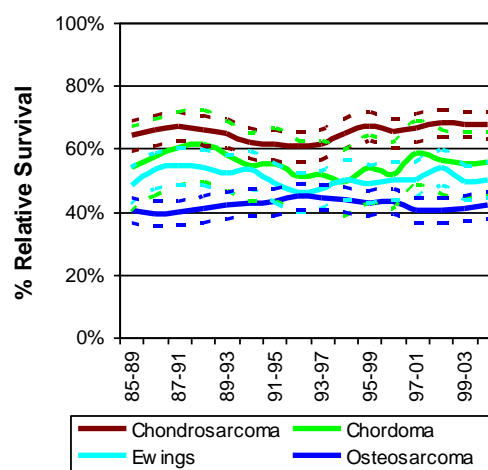
## Survival Rates

Five-year relative survival rates remained static between 1985 and 2004 at approximately 55%. Chondrosarcoma survival was consistently significantly higher than osteosarcoma survival.

**Figure 3: Five-year relative survival rates\* of all bone sarcomas (England, 1985-2004)**

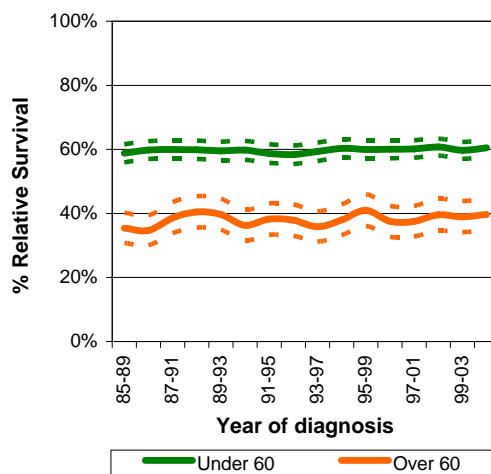


**Figure 4: Five-year relative survival rates\* by most common histological sub-types (England, 1985-2004)**



Bone sarcoma 5-year relative survival varies significantly by age. People aged less than 60 years at diagnosis have a significantly higher 5-year survival rate than those diagnosed aged 60 years or over.

**Figure 5 : Five-year relative survival rates\* by age, England, 1985-2004**



\* Relative survival is defined as the observed survival in the patient group divided by the expected survival of the general population, matched by age, sex, and calendar year. Relative survival was calculated in Stata (v.11) using the strsr programme which calculates relative survival estimates using the Ederer II method. National life tables were obtained from the Cancer Research UK Cancer Survival Group at the London School of Hygiene and Tropical Medicine. Five-year relative survival was calculated using 5 year rolling averages.

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.