

# Osteosarcoma in Oregon

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## **What is osteosarcoma?**

Osteosarcoma is cancer of the bone that most frequently affects long bones, such as the femur (thigh bone) and the tibia (shin bone).<sup>1-6</sup> Approximately 750 to 900 new cases of osteosarcoma are diagnosed each year in the United States, of which about 400 arise in children and adolescents younger than 20 years of age.<sup>7,8</sup>

## **Who gets osteosarcoma?**

Rates of osteosarcoma peak in early adolescence and, to a lesser extent, in adults over age 65 years. For children and adolescents, osteosarcoma rates peak between the ages of 12 and 16 years. For adults, rates are highest for those aged 75 to 79 years.<sup>4</sup>

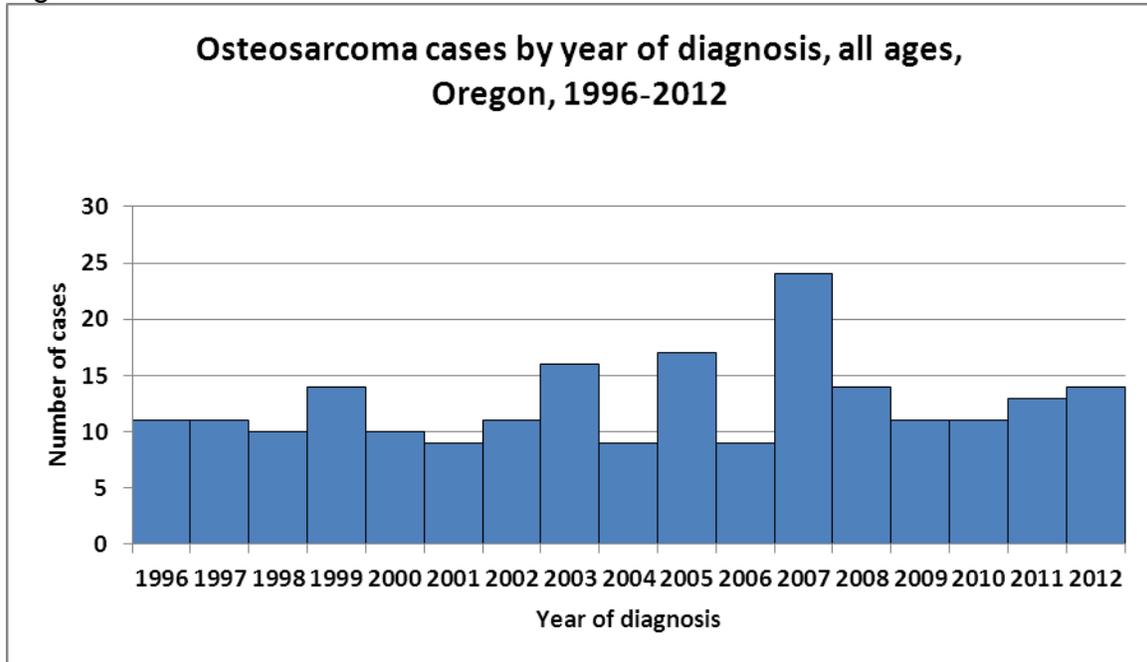
In the U.S., osteosarcoma rates are higher among blacks than whites.<sup>4,8</sup> Survival rates are highest for the youngest age groups and lowest for the oldest age groups.<sup>4</sup>

## **What causes osteosarcoma?**

In children, the majority of osteosarcomas are sporadic. A minority of cases are associated with inherited syndromes that increase the likelihood of developing osteosarcoma.<sup>7,8</sup> In children, nearly all cases of osteosarcoma represent a first cancer.<sup>4</sup> In adults, the majority of osteosarcomas are first cancers, but about 20-30% are second cancers.<sup>4</sup> Treatment with radiation or chemotherapy for cancer is associated with osteosarcoma and likely contributes to the osteosarcomas that occur as second cancers.<sup>7,8</sup> Currently, there are no environmental contaminants that are known to be associated with osteosarcoma.<sup>7,8,9</sup>

## Osteosarcoma cases in Oregon

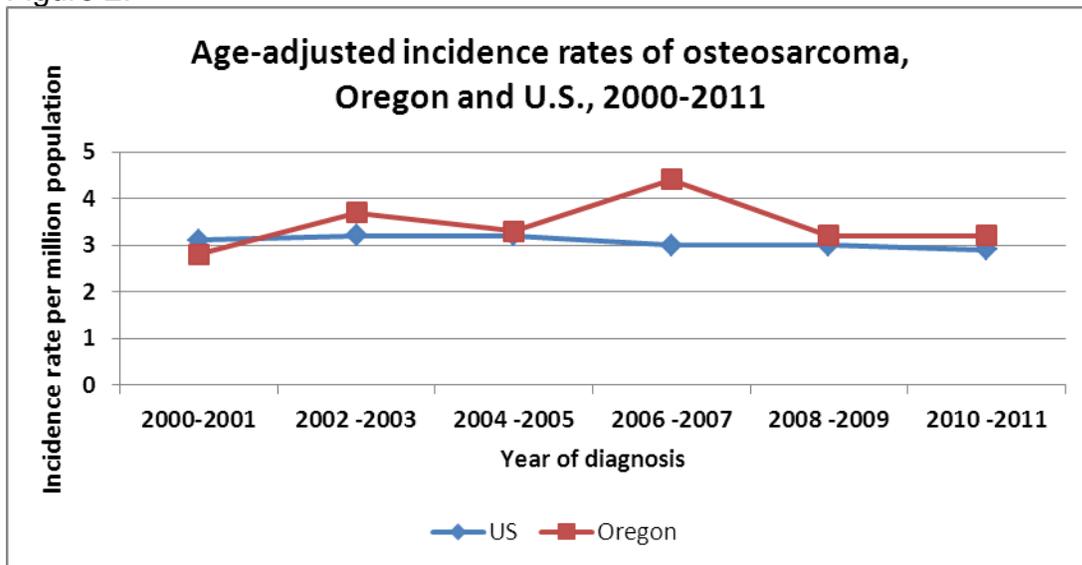
Figure 1.



Source: Oregon State Cancer Registry (OSCaR)

Between 1996 and 2012, the annual number of osteosarcoma cases in Oregon varied, but generally ranged between 10-15 cases per year (Figure 1). A higher than usual number of cases (24 cases) occurred in 2007. Since that time, the number of annual cases in Oregon has returned to the previous baseline.

Figure 2.

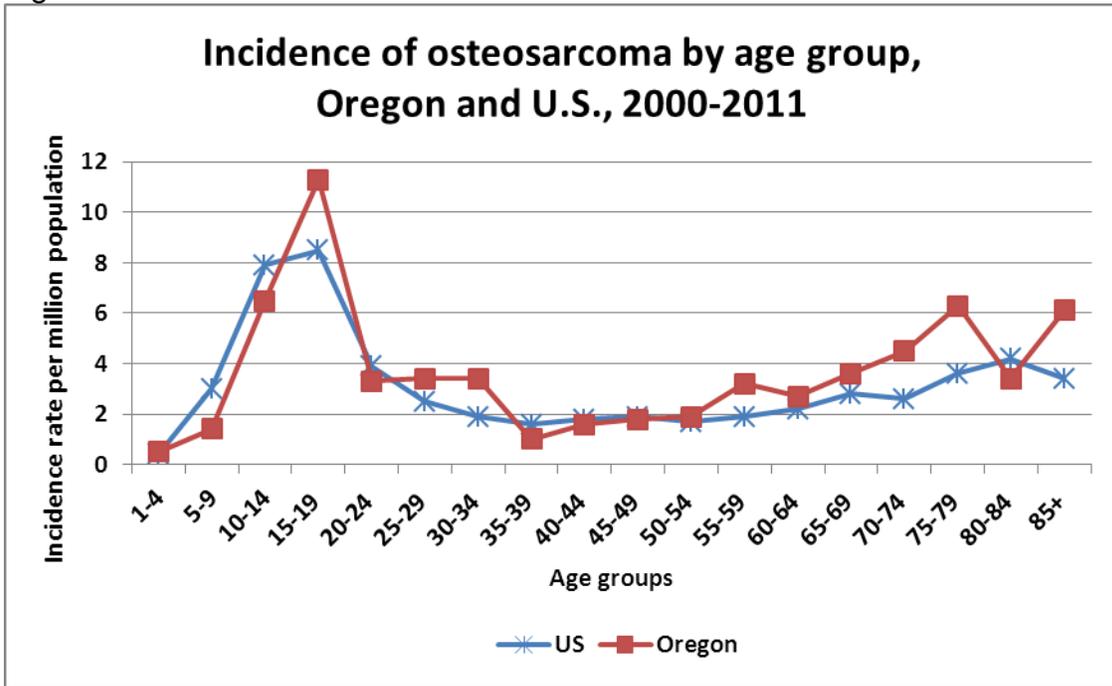


Sources: U.S (CDC WONDER) and Oregon (OSCaR)

The annual rate of osteosarcoma in Oregon has remained relatively stable since 2000, except during 2006-2007, when the rate was higher than usual (Figure 2). For rare conditions like osteosarcoma, a small change in the number of cases can make rates

look different. Since 2007, the annual rate of osteosarcoma cases in Oregon has returned to baseline. With the exception of 2006-2007, the overall rate of osteosarcoma cases in Oregon was comparable to the U.S. rate between 2000 and 2011.

Figure 3.

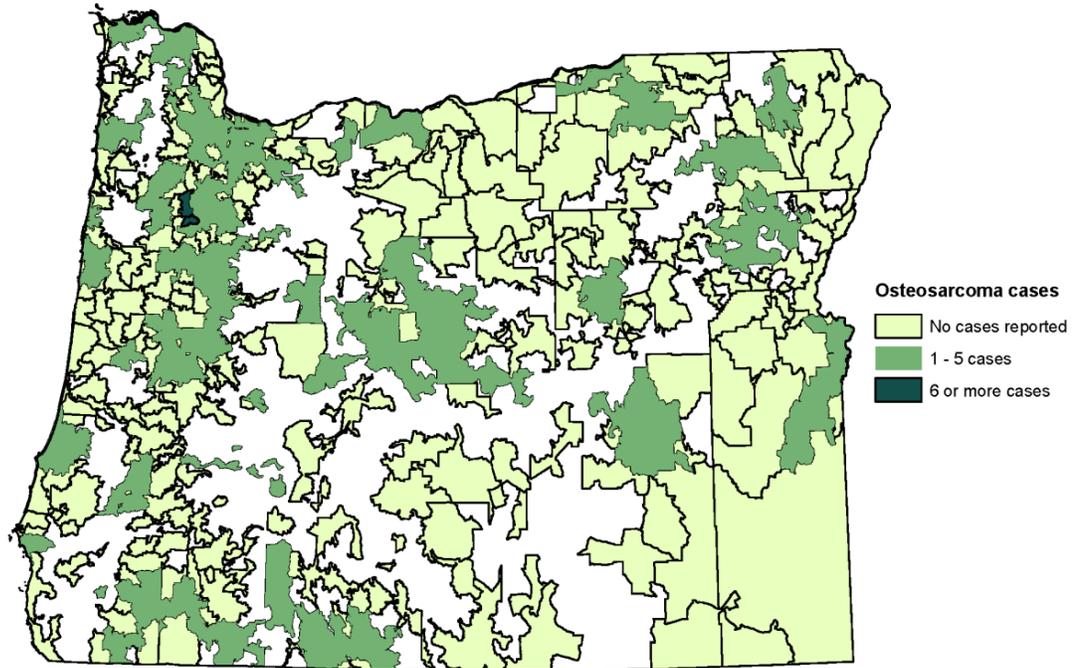


Sources: U.S (CDC WONDER) and Oregon (OSCaR)

Rates of osteosarcoma in Oregon follow the expected age distribution (Figure 3). During 2000 to 2011, the highest rates of osteosarcoma in Oregon occurred among adolescents, with another peak in rates among those aged 65 years and older. For most age groups in Oregon, osteosarcoma rates were comparable to rates in the U.S.

Figure 4.

## Osteosarcoma Incidence, All Ages, Oregon, 1996 to 2012



Data source: Oregon State Cancer Registry.

This map shows osteosarcoma cases in Oregon by zipcode.

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As shown in Figure 4, osteosarcoma cases occurred in scattered locations throughout the state between 1996 and 2012. The largest number of cases occurred near the I-5 corridor, where population density is greatest.

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