INTRODUCTION

Currently, about 1.9 million people are living with limb loss in the United States. People lose their limbs for many reasons. Of the 1.9 million, 54 percent lost their limb(s) due to complications related to vascular disease (including diabetes and peripheral arterial disease), 45 percent lost their limb(s) due to a traumatic accident, and less than 2 percent had an amputation due to cancer. Non-whites make up about 42 percent of the limb loss population in the United States. The number of people living with limb loss in the country is expected to double by 2050 due to growing rates of diabetes and vascular disease. (1)

Each year, an estimated 185,000 amputations are performed in the United States. (2) The leading causes of amputation in adults are vascular disease (including complications related to diabetes and peripheral arterial disease), trauma and cancer. According to the Centers for Disease Control and Prevention, in 2009 there were 68,000 amputations due to complications from diabetes (3).

A total of 14,008 amputations were performed in California hospitals in 2012. This fact sheet discusses the trends and most current incidence of amputation in California.

1. AMPUTATION TRENDS (1997-2012)

According to national hospital discharge data, the number of amputations performed in California increased by 15 percent from 1997 to 2012 (see Graph 1.1). During this time period, the number of amputations performed in the United States increased by 3.6 percent.

A total of 211,209 amputation procedures were performed in California from 1997 to 2012. This represents 9.2 percent of the 2,294,679 amputations performed in the U.S. during this time period.
From 1997 to 2012, a total of 17,912 upper-limb amputation procedures were performed in the state of California (see Graph 1.2). This represents 8.5 percent of all amputations performed in the state during this time period.

From 1997 to 2012, 162,382 upper-limb amputations were performed in the United States. The number of upper-limb amputations performed in the state of California represents 11 percent of this national total.

The incidence of upper-limb amputations in California has remained steady. The leading causes of upper-limb loss are trauma, cancer and congenital limb difference (1, 4, 5).

From 1997 to 2012, the number of lower-limb amputations in California increased by 16.8 percent (see Graph 1.3). A total of 193,039 lower-limb amputation procedures were performed in the state of California in these years. This represents 91.4 percent of all amputation procedures performed in the state.

From 1997 to 2012, 2,132,297 lower-limb amputations were performed in the United States. The number of lower-limb amputation procedures performed in California represents 9.1 percent of this national total.

The leading causes of lower-limb amputation are complications resulting from dysvascular diseases such as diabetes; the number of people who lose a limb due to diabetes is expected to almost triple by the year 2050 (1, 4).
2. INCIDENCE OF AMPUTATION (2012)

A total of 14,008 amputation procedures were performed in the state of California in 2012, including 1,054 upper-limb amputations (7.5 percent) and 12,938 lower-limb amputations (92.4 percent).

Most upper-limb amputations involved the fingers (79 percent). Below- or above-elbow amputations accounted for only 6.5 percent of the upper-limb amputation procedures performed in the state of California in 2012 (see Graph 2.1).

A total of 12,938 lower-limb amputation procedures were performed in 2012. Almost half involved the toes (48.8 percent). Below-knee amputations accounted for 22.3 percent and above-knee amputations accounted for 13.1 percent of the lower-limb amputation procedures performed in the state in that year (see Graph 2.2).

Source: Healthcare Cost and Utilization Project HCUPnet database hcupnet.ahrq.gov

In 2012, almost half of the amputations in California were performed on individuals aged 45-64 years old (46.6 percent), followed by the age group of 65-84 (34.7 percent) (see Graph 3.1). These trends largely reflect the aging population and causes of amputations resulting from dysvascular conditions, especially diabetes, which are more common in older individuals (1).

![Graph 3.1: Amputations by Age Group, California (2012)](image)

There were nearly 2.5 times more amputations performed on male patients in California than on female patients (see Graph 3.2).

![Graph 3.2: Amputations by Sex, California (2012)](image)

In 2012, most of the amputations in the state of California were performed on patients who were White (44 percent), Hispanic (37 percent), or African American (12 percent) (see graph 3.3).

Many studies have published research that shows evidence for inequalities in terms of amputation incidence among minorities when compared to the proportion of amputations in the White population. A few studies offer suggestions for why this happens, such as certain ethnic populations being genetically more likely than others to experience diseases, such as diabetes, that can lead to amputation. Various socioeconomic factors and a population’s access to healthcare can also affect these numbers. (4, 6, 7)

Source: Healthcare Cost and Utilization Project HCUPnet database hcupnet.ahrq.gov
4. AMPUTATION COSTS

Paying for an amputation can place a large burden on the patient. For people with a unilateral lower-limb amputation, the two-year healthcare costs, including initial hospitalization, inpatient rehabilitation, outpatient physical therapy, and purchase and maintenance of a prosthetic device, is estimated to be $91,106. The lifetime healthcare cost for people with a unilateral lower-limb amputation is estimated to be more than $500,000. (8)

Many factors contribute to the variation in healthcare costs for people with limb loss. Having a higher amputation level and multiple amputations can lead to increased costs for prosthetic devices. For example, the two-year healthcare costs for a person with an above-knee amputation are estimated to be $110,039, compared to $86,244 for a person with a below-knee amputation (8).

For 2012, the burden of costs associated with limb loss were largely experienced by Medicare or Medicaid, which paid for nearly half of the amputation procedures performed in the State of California (see Graph 4.1).

Graph 4.1: Amputations by Payer Type, California (2012)

Source: Healthcare Cost and Utilization Project HCUPnet database
hcupnet.ahrq.gov
5. REFERENCES


