Escherichia coli O157 infections

Over the past 20 years, O157 has emerged from obscurity to become rightly or wrongly perhaps the most dreaded of the common causes of infectious diarrhea. Oregon has been the setting for many O157 outbreaks, and investigations of those outbreaks combined with the analysis of other surveillance information has contributed greatly to our understanding of this pathogen. Spread by the fecal-oral route, O157 has a number of animal reservoirs, the most important of which are ruminants: including cattle, goats, sheep, deer, and elk. Transmission often occurs from consumption of contaminated food or water, as well as direct person-to-person spread.

In 2002 we investigated the largest known O157 outbreak in Oregon history. Over 80 cases were associated with visiting the building housing sheep, goat and other small animal exhibits at the Lane County fair. The exact mode of transmission was never determined, although it was learned that at some point the pathogen became airborne in quantities sufficient to be recovered under the pavilion’s roof weeks after the fair. Organizers have beefed up handwashing facilities at fairgrounds around Oregon this year, and are hoping for the best. More research is necessary to determine if airborne spread is a significant risk to humans. Despite efforts nationally to reduce the levels of meat contamination, the rate of sporadic (i.e., not outbreak-related) cases has been essentially unchanged over the past decade. Person-to-person transmission remains an important source.

E. coli O157 Infection
by Year
Oregon, 1993–2002
**Incidence of *E. coli* O157 Infection by Age and Sex**
Oregon, 2002

- **Cases/100,000**

- **Cases**
  - **0-4**
  - **5-9**
  - **10-19**
  - **20-29**
  - **30-39**
  - **40-49**
  - **50-59**
  - **60-69**
  - **70-79**
  - **80+**

- **Cases by Onset Month**
  - **Jan**
  - **Feb**
  - **Mar**
  - **Apr**
  - **May**
  - **Jun**
  - **Jul**
  - **Aug**
  - **Sep**
  - **Oct**
  - **Nov**
  - **Dec**

- **Mean, 1997–2001**

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**E. coli O157 Infection by Onset Month**
Oregon, 2002

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  - **5-9**
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  - **30-39**
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  - **Aug**
  - **Sep**
  - **Oct**
  - **Nov**
  - **Dec**

- **Mean, 1997–2001**
Incidence of *E. coli* O157 Infection
Oregon vs. Nationwide
1993–2002

Incidence of *E. coli* O157 Infection
by County
Oregon, 2002