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American Academy of Pediatrics

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Advise families against giving children unpasteurized milk

by John Bradley, M.D., FAAP, Larry K. Pickering, M.D., FAAP, and John Jareb, M.D., FAAP

Raw or unpasteurized milk can transmit many serious infectious diseases to children. Furthermore, there are no documented health benefits associated with ingestion of unpasteurized milk or milk products. Therefore, the Academy advises that children should receive only pasteurized milk products.

Pediatricians often are asked questions by parents looking for more “natural” foods, which many believe are more nutritious than “processed” foods. When these questions refer to unpasteurized or “unprocessed” dairy products, the answer is clear. Pasteurization prevents dangerous foodborne infections, and omitting this crucial safety step puts children at risk.

Raw milk is a well-documented vehicle for transmission of *Campylobacter*, *Salmonella*, *Escherichia coli* O157:H7, *Listeria monocytogenes*, *Mycobacterium bovis*, *Coxiella burnetii* and *Brucella* species among other bacterial and viral pathogens. Some of these organisms are shed in the milk itself, while other pathogens may be present in cow feces and can contaminate milk as it leaves the cow to be processed for consumption. Pasteurization, or heating of raw milk to a specific temperature for a specific period of time (e.g., 161 degrees Fahrenheit [72 degrees Celsius] for 15 seconds), dramatically reduces or eliminates bacterial and mycobacterial pathogens.

“Grade A Pasteurization” has been a recommended federal policy since 1924, although only in 1987 was federal legislation passed prohibiting interstate commerce of unpasteurized dairy products. The Academy officially endorses pasteurization of all milk and milk products for children.

State governments have the authority to require pasteurization of milk, but many states continue the dangerous practice of allowing dairies to produce and distribute unpasteurized milk or colostrum and dairy products made from unpasteurized milk, including cheese. As of February 2007, the production and distribution of unpasteurized milk were legal in 27 states.

According to one report, 87% (40 of 46) of reported raw milk-associated illness outbreaks from 1973-1992 occurred in states in which the intrastate sale of raw milk was legal. Furthermore, in states that prohibit sale of unpasteurized milk, dairies have circumvented state law by arranging the cooperative ownership of dairy cows or their milk (also known as cow shares, herd shares, cow boarding or cooperatives).

Stringent inspections of unpasteurized milk production have been used to try to reduce risks of disease, but outbreaks continue to occur. California previously

certified farms, which agreed to an increased number of inspections and testing of cows for tuberculosis and brucellosis. Despite increased vigilance, California public health officials estimated the rate of *Salmonella* infections from drinking unpasteurized milk to be 458 cases per million people, while the rate from drinking pasteurized milk was only three cases per million, a relative risk of 153. In 2008, California tightened the standards for commercial raw milk production by decreasing “acceptable” contamination from 15,000 coliforms/mL to 10 coliforms/mL, but stopped short of requiring pasteurization that nearly would eliminate the risks of disease transmission.

As reviewed in 2007 by the Food and Drug Administration’s (FDA’s) Center for Food Safety and Applied Nutrition (www.cfsan.fda.gov/~dms/rawmilk2.html), data were reported from raw milk-associated cases from 2000 through 2005 (see table). As might be expected, children are affected disproportionately: Three of the seven children who died were infants. Hemolytic-uremic syndrome, a complication of shiga toxin-producing *E. coli*, including *E. coli* O157:H7 infection, primarily affects children. These cases, reported through local and state health departments to the Centers for Disease Control and Prevention (CDC) and FDA, are likely to underestimate the true incidence of milk-borne disease, because people with milder infections are unlikely to seek medical attention.

Legislation cannot preclude all access to unpasteurized milk and its products. The preference among Latino immigrant families for fresh cheeses, because of taste or texture, (e.g., “queso fresco”) made from unpasteurized milk leads some families to bring these products from abroad for personal use or to buy products that are smuggled

Etiology, morbidity and mortality of reported raw milk-associated events from 2000 through 2005

Pathogen	Events	People affected	Hospitalized	Deaths	States involved
<i>Salmonella</i> (including multidrug-resistant <i>S. newport</i> and <i>S. typhimurium</i>)	5	193	21	0	Calif., Ill., Ind., Ohio, Tenn., Conn
<i>Campylobacter jejuni</i>	4	123	0	0	Ill., Wis., Conn., Colo.
Rabies virus	1	62	0	0	Okla.
<i>Mycobacterium bovis</i>	2	40	26*	2	N.Y., Md.
<i>Listeria monocytogenes</i>	5	36	12	5	Texas, N.Y., N.H., N.C.
<i>Escherichia coli</i> O157:H7	2	19	7	0	Ore., Wash.
Total	19	473	66	7	16
*from the N.Y. outbreak only					

into the United States or produced in the United States illegally. These practices have been linked to life-threatening and fatal pediatric infections with *Listeria*, *Mycobacterium bovis*, *Brucella melitensis* and *Salmonella* in Mexican-American communities across the United States. Pediatricians should provide anticipatory advice against these practices during nutritional counseling for families from cultures with a preference for raw-milk products.

Prevention of disease in children is one of the Academy's highest priorities. Raw milk is known to transmit infectious diseases, and

RESOURCE

Additional information on the diagnosis and management of foodborne illness can be found in *Red Book 2006*, on the CDC Web site at www.cdc.gov/nczved/dfbmd and at www.cdc.gov/mmwr/PDF/rr/rr5304.pdf.

pasteurization is known to minimize risk. Raw milk has no benefit that would justify any increase in risk to children. The Academy supports legislative efforts at both state and national levels that mandate pasteurization of all dairy products.

Dr. Bradley is a member of the AAP Committee on Infectious Diseases. Dr. Pickering is editor of the AAP Red Book. Dr. Jareb is a clinical epidemiologist at the Centers for Disease Control and Prevention.

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