

## Testing Leftover Meat Samples from Case-Households for *E. coli* O157

To: CD Nursing Staff and Sanitarians, All Oregon Counties

2 November 2007

From: Bill Keene, Acute & Communicable Disease Prevention, OPHD

### OVERVIEW

This memo updates OPHD policy on testing leftover meat from the households of persons reported with *E. coli* O157 infections. In brief, we are happy—indeed, eager—to test any leftover ground beef, lamb, and venison (e.g., deer or elk meat) from the households of sporadic O157 cases. This assumes, of course, that the meat was part of a package/carcass/lot consumed or handled by the case during the likely exposure period (1–10 days < onset). The meat does not necessarily have to be epidemiologically implicated as the source of illness. That is, we don't care if "other people ate it and didn't get sick" or "they always cook it really well done." The testing will be done at Dr. Mansour Samadpour's lab near Seattle using a combination of sensitive PCR and culture methods. Any O157 isolates recovered will be compared to corresponding patient isolate(s).

This is a brute force method for identifying meat vehicles, and we are taking advantage of the *pro bono* (free) testing to see if this is worthwhile. Positive tests may result in the relatively rapid identification of meat sources and may result in recalls of commercial product and the prevention of additional infections. Some of you may recall that we ran a similar program (albeit with less sensitive lab methods) in the late 1990s.

### SAMPLE SELECTION AND HANDLING

We are interested in leftover, uncooked meat from the same packages or lot (e.g., from 1 of 2 packages bought together) as that consumed or handled in the case's household during the week before onset. We are just as interested in testing meat from non-commercial sources (e.g., home-slaughtered) as store-bought stuff. We are primarily interested in ground beef, lamb, and venison. In general, we do not want to test beef steaks, roasts, or other beef cuts, nor are we interested in pork or poultry.

The ideal specimen would be frozen meat that came from the same package or production unit, either in bulk or as formed patties. Leftover refrigerated meat is also acceptable, but you probably won't find much of this and, if you do, it may be pretty old! Half a pound is plenty; less is acceptable if that is all there is. If they only have a 5 or 10# block, try to whack off a smaller piece (not *too* small, though). Samples should be collected as soon as possible and shipped by overnight service in a small cooler. If shipping costs are a problem, let us know and we should be able to arrange to pay for it.

Seal the sample inside a Zip-loc™ or other sealable bag; wrap it in some absorbent material (e.g., paper towels or, in a pinch, newspaper) and seal it in another bag. Pack it in a small Styrofoam cooler. Include an ice pack or two. Dry ice is not necessary; a little thawing around the edges is OK. (Dried meat, such as jerky, won't require either ice or a cooler, any small packet will do nicely, but if possible send some of the "parent" carcass meat too.) Ship specimens on Monday–Thursday only to ensure Tuesday–Friday deliveries. Try to avoid freeze/thaw cycles: if it's already frozen, keep it frozen; if it's thawed, keep it refrigerated.

Specimens should be shipped directly to:

**Institute for Environmental Health** (206.306.8882)  
**Attention: Dr Mansour Samadpour**  
**15300 Bothell Way, NE**  
**Lake Forest Park, WA 98155-7634**

You do not need prior authorization to submit samples, but you do need to notify the folks at IEH and OPHD that specimens are en route. Send an email message to the following people to advise that a shipment is being sent:



ms@iehinc.com	Mansour Samadpour
keene@cluemail.com	Bill Keene
julie.hatch@state.or.us	Julie Hatch
hillary.booth@state.or.us	Hillary Booth

Please include a copy of the attached form with the meat (after completing it, of course), and fax a copy to us at the Health Division also (971.673.1100).

You will be notified of test results by phone or email, typically within 4–5 days of receipt at the lab.

## **RATIONALE**

It is usually not very efficient to undertake this kind of brute force food culturing, particularly on food from sporadic cases that almost by definition is not epidemiologically implicated. We don't want you to think that something has happened to change that general truth, and it is important that the people from whom these specimens are collected not be misled into thinking that meat was necessarily their source just because we are interested in testing it. Nonetheless, while most O157 outbreaks and no doubt sporadic cases are *not* traceable to undercooked meat, meat remains an important source, and it makes sense that O157 should be easier to find in samples collected from the homes of people with sporadic infections rather than from "random" meat samples. IEC is very generously providing this testing for us without charge, so we are only having to pay for the shipping, which makes it easier to call this "cost-effective." So if you can get samples from case households without too much trouble, please do. Depending on circumstances, finding positive samples may lead to additional follow-up (e.g., lot recalls or focused public health messages) that might prevent infections. These tests may also help assess how many "sporadic" cases can be attributed to meat exposures.

## **WHAT IF IT'S POSITIVE?**

Results will be shared with you and with the meat donors. If the meat is from a commercial source (e.g., ground beef from a supermarket), the information will be shared with the USDA and other agencies. This may result in regulatory action (e.g., a recall). If we find out that someone has 200 lbs. of contaminated elk meat in their freezer, we'll explain the problem to them and leave it up to the owner to decide what to do with it. Some people might want to discard that meat, and that might be a good idea, but I don't think that we would ever want to require that.

## **WHEN SUSPECT FOODS ARE EPIDEMIOLOGICALLY IMPLICATED**

Whenever food items—meat or otherwise— *are* epidemiologically implicated (as in an outbreak investigation), special considerations may apply. Please call to discuss.

## **FOR MORE INFORMATION**

Contact Bill Keene, Julie Hatch, Hillary Booth, or the on-call epidemiologist by email or at 971.673.1111.

# Meat Samples for STEC/*E. coli* O157 Testing

Fill in as much information as you can about the meat sample(s) that you have collected. Use additional copies if necessary. Some questions may not apply to all specimens (e.g., for home-slaughtered meat). An example is shown in the first column. Enclose a copy of this form with the shipment, and fax a copy to ACDP (971.673.1100).

County \_\_\_\_\_ LHD Contact \_\_\_\_\_ Phone \_\_\_\_\_

Fax \_\_\_\_\_ LHD E-mail(s) \_\_\_\_\_

Household ID (Case's initials or case ID number; no names) \_\_\_\_\_

Number of meat samples collected \_\_\_\_\_

Date shipped \_\_\_\_\_ Supposed to arrive on \_\_\_\_\_

Route  FedEx  Airborne  UPS  Overnight Mail  \_\_\_\_\_

	EXAMPLE	SAMPLE 1	SAMPLE 2
TYPE	<input checked="" type="checkbox"/> beef <input type="checkbox"/> lamb <input type="checkbox"/> deer <input type="checkbox"/> elk <input type="checkbox"/> mixed _____ <input type="checkbox"/>	<input type="checkbox"/> beef <input type="checkbox"/> lamb <input type="checkbox"/> deer <input type="checkbox"/> elk <input type="checkbox"/> mixed _____ <input type="checkbox"/>	<input type="checkbox"/> beef <input type="checkbox"/> lamb <input type="checkbox"/> deer <input type="checkbox"/> elk <input type="checkbox"/> mixed _____ <input type="checkbox"/>
SOURCE	<input checked="" type="checkbox"/> store-bought <input type="checkbox"/> home-slaughter <input type="checkbox"/>	<input type="checkbox"/> store-bought <input type="checkbox"/> home-slaughter <input type="checkbox"/>	<input type="checkbox"/> store-bought <input type="checkbox"/> home-slaughter <input type="checkbox"/>
SAMPLE WEIGHT	~ 1/2 lb.		
CONDITION WHEN PURCHASED	<input checked="" type="checkbox"/> frozen <input type="checkbox"/> thawed/fresh <input type="checkbox"/>	<input type="checkbox"/> frozen <input type="checkbox"/> thawed/fresh <input type="checkbox"/>	<input type="checkbox"/> frozen <input type="checkbox"/> thawed/fresh <input type="checkbox"/>
CONDITION WHEN COLLECTED	<input type="checkbox"/> with original packaging <input checked="" type="checkbox"/> repackaged <input type="checkbox"/> frozen <input type="checkbox"/> thawed/fresh <input checked="" type="checkbox"/>	<input type="checkbox"/> with original packaging <input type="checkbox"/> repackaged <input type="checkbox"/> frozen <input type="checkbox"/> thawed/fresh <input type="checkbox"/>	<input type="checkbox"/> with original packaging <input type="checkbox"/> repackaged <input type="checkbox"/> frozen <input type="checkbox"/> thawed/fresh <input type="checkbox"/>
FORM	<input type="checkbox"/> ground (bulk) <input type="checkbox"/> ground (preformed patties) <input type="checkbox"/> sausage <input type="checkbox"/> steak, roast, chops <input type="checkbox"/> jerky <input type="checkbox"/>	<input type="checkbox"/> ground (bulk) <input type="checkbox"/> ground (preformed patties) <input type="checkbox"/> sausage <input type="checkbox"/> steak, roast, chops <input type="checkbox"/> jerky <input type="checkbox"/>	<input type="checkbox"/> ground (bulk) <input type="checkbox"/> ground (preformed patties) <input type="checkbox"/> sausage <input type="checkbox"/> steak, roast, chops <input type="checkbox"/> jerky <input type="checkbox"/>
DATE PURCHASED	11/27/05		
DATE COLLECTED BY H.D.	12/16/05		
STORE	Safeway		
STORE LOCATION	325 Main St, Pendleton		
BRAND	store label		
DESCRIPTION	extra lean		
LOT NUMBER	none		
"SELL-BY" DATE	12/7/05		
ORIGINAL PACKAGE SIZE	2 lbs.		