Health Protection Agency

CDR WEEKLY

the Communicable Disease Report Weekly

Current Issue: Volume 15 Number 28 **Published on:** 14 July 2005

NEWS STORIES:

INFECTION REPORTS

Enteric:

CDR SUBSCRIPTION:

To subscribe to CDR Weekly, please visit: <http://www.hpa.org.uk/cdr/contact.htm>

Last updated: **14 July 2005**
Next update due: **21 July 2005**

News

Unseasonal increase in scombrotoxic fish poisoning in England and Wales

Between December 2004 and June 2005, 16 outbreaks and incidents of scombrotoxic fish poisoning (SFP) were reported to the Health Protection Agency (HPA) from several regions within England and Wales. Thirty-eight people were ill, three of whom were admitted to hospital. This seasonal increase is unusual, as outbreaks are more likely to occur during warmer weather after consumption of fish that has been improperly stored, handled, and prepared (1). The outbreaks were associated with 16 catering premises (sandwich shops, restaurants, hotels) and one domestic setting – 14 were caused by consumption of tuna. Six of the catering premises were supplied with tuna from the same supplier in sealed foil vacuum packs that had low levels of histamine (<30ppm), but remnants of tuna and prepared food (eg tuna mayonnaise) contained toxic levels (>3000ppm). This suggests poor food handling and inadequate refrigeration during storage at these premises after the tuna packs were opened. In one of the other outbreaks, toxic histamine levels (>1970 ppm) were present in both sealed packs of raw and cooked tuna indicative of poor temperature control at some stage post-harvest, storage, or transportation. Maintenance of microbiological quality of fish post harvest until the moment of consumption is essential if SFP associated with fish is to be avoided.

Between 1992 and 2004, 56 outbreaks of scombrotoxic fish poisoning (SFP) were reported in England and Wales (between 0 and 10 incidents per year) affecting 296 people (HPA unpublished data). Analysis of outbreaks associated with fish and shellfish between 1992 and 1999 identified that SFP accounted for 32% of these and that SFP outbreaks occurred more frequently during the summer months (1).

SFP is associated with the consumption of contaminated fish of the Scombridae family (including tuna, mackerel, herring, marlin, bonito, and jacks). SFP is a chemical intoxication and symptoms occur within ten minutes to two hours after consumption of preformed histamine in scombroid fish and include rash on the face, neck and upper chest, flushing, sweating, nausea, vomiting, diarrhoea, abdominal cramps, headache, dizziness, palpitations, oral burning sensation, metallic taste, and hypotension. Symptoms may be of sufficient severity to prompt cases to seek urgent medical attention, but they usually resolve within 24 hours. Scombroid fish naturally contain high levels of the amino acid histidine, which is converted to histamine as a result of the naturally occurring enzyme histidine decarboxylase producing bacteria if storage conditions are inadequate to control bacterial growth. Histamine is heat stable and survives subsequent processing, including canning, and ingestion of fish with histamine at levels in excess of 1000ppm (100mg/100g) can result in illness. Bacterial spoilage and production of histamine may occur at any stage in the food chain (ie, from landing the fish, at the processing plant or in the distribution system, or in catering premises or homes) and adequate temperature control is key in preventing bacterial growth and histamine formation. For control of fish belonging to the scombroid family, the permissible level set by European Union (EU) legislation for each batch of fish is an average histamine concentration lower than 100ppm (10mg/100g) (2).

Accredited chemical tests for histamine are available at the HPA Centre for Infections Food Safety Microbiology Laboratory, 61 Colindale Avenue, Colindale, NW9 5HT, and a minimum sample of 10g

fish, or fish products should be frozen to arrive in a frozen state. The EU General Food Law Regulation 178/2002 (3) requires the removal of contaminated food from the marketplace together with efficient and complete trace-back of incriminated food to the point of origin. Following the recent SFP outbreaks, the Food Standards Agency has circulated a letter to food enforcement authorities to make them aware of the issue and emphasised the importance of following strict hygiene during handling, storage, and processing of the fish at food premises (4).

References

Adak GK, O'Brien SJ, Brett MM, Bolton FJ. General outbreaks of infectious intestinal disease associated with fish and shellfish, England 1992-1999.*Commun Dis Public Health* 2001; **4**(2):117-23.

ective 91/493/EEC of 22 July 1991 laying down the health conditions for the production and the placing on the market of fishery products. nal of the European Communities 1991; L 268/15 - 34. Implemented in the UK by the Food Safety (Fishery Products and Live Shellfish) egulations 1998 SI 994.

tal site of the European Union). Regulation (EC) No 178/2002 of The European Parliament and of the council. Available at oa.eu.int/eur-lex/pri/en/oj/dat/2002/l_031/l_03120020201en00010024.pdf> [cited 14 July 2005].

ards Agency. Sporadic cases of scombrotoxic poisoning associated with tuna. *(Letter)* (ENF/E/05/027).London: FSA, 1 July 2005. : <http://www.food.gov.uk/multimedia/pdfs/enf_e_05_027.pdf> [cited 14 July 2005].

Guidelines for the control and prevention of meticillin-resistant *Staphylococcus aureus* (MRSA) in Hospitals

Consultation on the *Guidelines for the control and prevention of meticillin-resistant Staphylococcus aureus (MRSA) in Hospitals* is now under way. The draft guidelines were p roduced by a joint working party of the British Society for Antimicrobial Chemotherapy, Hospital Infection Society and Infection Control Nurses Association, and have been issued for open consultation until 1 August 2005.

Following the consultation period the report will be amended and submitted for publication in the *Journal of Hospital Infection* . Copies of the report will be freely available from the time of publication.

The Guidelines, and details of how to respond, are available at < <http://www.bsac.org.uk/latest_news.cfm?cit_id=421&FAArea1=customWidgets.content_view_1&usecache=false>.

Human tissue act 2004 – draft regulations for consultation

The Department of Health (DH) has published, for consultation, draft regulations under the *Human Tissue Act 2004* . The reg ulations are an important part of the implementation of the *Human Tissue Act* and provide detailed policy on a number of issues where broad outlines were given in the primary legislation.

The draft regulations and explanatory notes are available on the Department of Health website at: <http://www.dh.gov.uk/Consultations/LiveConsultations/fs/en>, under the heading ' *Human Tissue Act 2004: Draft Regulations for consultation* '. The consultation runs until 4 October 2005 and details of how to respond are given on the DH website.

Last updated: **14 July 2005**
Next update due: **11 August 2005**

Enteric

Current content: Published 14 July 2005, Volume 15 Number 28

General outbreaks of foodborne illness in humans, England and Wales: weeks 23-27/05

Preliminary information has been received about the following outbreaks.

M (microbiological): identification of an organism of the same type from cases and in the suspect vehicle, or vehicle ingredient(s), or detection of toxin in faeces or food; D (descriptive): other evidence, usually descriptive, reported by local investigators as indicating the suspect vehicle or food; S (statistical): a significant statistical association between consumption of the suspect vehicle(s) and being a case.

Health Protection Unit	Organism	Location of food prepared or served	Month of outbreak	Number ill	Cases positive	Suspect vehicle	Evidence
Newcastle	*S.* Enteritidis PT6	Restaurant	June	3	3	–	–
Leeds	Campylobacter	Restaurant	February	4	3	Chicken liver tikka	D

Salmonella infections, (faecal specimens) England and Wales, reports to the HPA (salmonella data set): May 2005

Details of serotypes of the 567 salmonella infections recorded in May 2005 are given in the table below. In June 2005, 707 salmonella infections were recorded and preliminary information was received about one outbreak (see table above).

	May 2005
*S.*Enteritidis (PT4)	55
*S.*Enteritidis (other PTs)	219
*S.*Typhimurium	76
*S.*Virchow	31
Others (typed)	186
Total *Salmonella* (provisional data)*	**567**

*Figures quoted from the Health Potection Agency salmonella data set are for isolates confirmed and typed by Laboratory of Enteric Pathogens (LEP).

Common gastrointestinal infections, England and Wales, laboratory reports: weeks 23-27/05

Laboratory reports	Number of reports received					Total reports	Cumulative total to	
	23/05	24/05	25/05	26/05	27/05	23-27/05	27/05	27/04
Campylobacter	1139	1033	941	719	122	**3954**	**17,848**	**22,652**
Escherichia coli* O157	20	12	37	22	25	**116**	**283**	**214**
***Salmonella*†**	187	169	116	147	139	**758**	**3655**	**4282**
Shigella sonnei	20	22	15	5	–	**62**	**365**	**388**
Rotavirus	113	126	81	48	14	**382**	**12,273**	**13,128**
Norovirus	12	16	5	–	–	**33**	**2171**	**1429**
Cryptosporidium	30	33	34	13	7	**117**	**862**	**1391**
Giardia	53	36	17	23	8	**137**	**1141**	**1581**

*Vero cytotoxin-producing isolates (data from Health Protection Agency's Laboratory of Enteric Pathogens (LEP).
† Data from Health Protection Agency's Laboratory of Enteric Pathogens.
NA= Not available at time of publication.

Escherichia coli O157 weeks 18-22/05

Laboratory reports	Number of reports received					Total reports	Cumulative total to	
	18/05	19/05	20/05	21/05	22/05	18-22/05	22/05	22/04
Escherichia coli* O157	7	15	15	16	11	**64**	**167**	**135**

Less common gastrointestinal infections, England and Wales: laboratory reports, weeks 14-26/05

Laboratory reports	Total reports 14-26/05	Cumulative total to 1-26/05	Cumulative total to 1-26/04
Adenovirus	5	14	10
Astrovirus	23	103	145
Sapovirus (formerly Calicivirus)	8	16	26
Shigella flexneri	79	146	136
Plesiomonas	7	13	14
Vibrio	6	13	13
Yersinia	2	14	10
Entamoeba histolytica	13	40	61
Blastocystis hominis	42	126	191
Dientamoeba fragilis	22	48	123

General outbreaks of infectious intestinal disease in England and Wales: 2004

A provisional total of 929 general outbreaks of infectious intestinal disease in England and Wales were reported to the Health Protection Agency Environmental and Enteric Diseases Department during 2004. A minimum dataset was captured for 725 (78%).

In total, 15,898 people were affected; 134 were admitted to hospital, and 11 people died.

Norovirus was the most commonly implicated pathogen (43%; table 1) and most outbreaks occurred in residential institutions (43%) and hospitals (17%; table 2). Person-to-person spread was the predominant mode of transmission (73%; table 3).

Table 1 Outbreaks of infectious intestinal disease by pathogen, England and Wales: 2004

Pathogen	Number of outbreaks
Norovirus	311
Salmonella	37
Rotavirus	23
E. coli O157	11
Cryptosporidium	10
Campylobacter	6
Astrovirus	2
Sapovirus (Calicivirus)	1
Clostridium difficile	3
Clostridium perfringens	6
Shigella sonnei	1
Staphylococcus aureus	1
Mixed aetiology	2
Other	2
Unknown	309
Total	**725**

Table 2 Outbreaks of infectious intestinal disease by venue, England and Wales: 2004

Place	Number of outbreaks
Residential institution	340
Hospital	126
School	119
Commercial catering premises	67
Club/Centre/Hall	34
Swimming pool	7
Holiday camp	6
Farm	4
Armed forces	4
Shop/retailer	4
Private house	4
Workplace	2

University/college	1
Community	1
Other	6
Total	**725**

Table 3 Outbreaks of infectious intestinal disease by pathogen and mode, England and Wales: 2004

Pathogen	Person to Person	Foodborne	Other/Unknown	Total
Norovirus	241	3	67	**311**
Salmonella	1	29	7	**37**
Rotavirus	18	–	5	**23**
E. coli O157	1	1	9	**11**
Cryptosporidium	1	–	9	**10**
Campylobacter	–	3	3	**6**
Clostridium perfringens	1	5	–	**6**
Clostridium difficile	3	–	–	**3**
Astrovirus	2	–	–	**2**
Sapovirus (Calicivirus)	1	–	–	**1**
Shigella sonnei	1	–	–	**1**
Staphylococcus aureus	–	1	–	**1**
Mixed aetiology	1	–	1	**2**
Other	–	1	1	**2**
Unknown	255	7	47	**309**
Total	**526**	**50**	**149**	**725**

Table 4 Outbreaks of infectious intestinal disease by venue and mode, England and Wales: 2004

Place	Person to Person	Foodborne	Other/Unknown	Total
Residential institution	291	4	45	**340**
Hospital	82	2	42	**126**
School	93	–	26	**119**

Commercial catering premises	23	34	10	**67**
Club/Centre/Hall	25	4	5	**34**
Swimming pool	–	–	7	**7**
Holiday camp	6	–	–	**6**
Farm	–	–	4	**4**
Armed forces	1	–	3	**4**
Shop retailer	–	4	–	**4**
Private house	1	1	2	**4**
Workplace	1	–	1	**2**
University/college	–	1	–	**1**
Community	1	–	–	**1**
Other	2	–	4	**6**
Total	**526**	**50**	**149**	**725**

Source: GSURV is the database for the national surveillance system for general outbreaks of infectious intestinal disease and is managed by the Health Protection Agency's Environmental and Enteric Diseases Department.

Note: GSURV is now dynamic and therefore the numbers may change slightly over time. However, those quoted are accurate as of 2 June 2005.

Vero cytotoxin-producing *Escherichia coli* O157: 2004

In 2004, 699 isolations of Vero cytotoxin (VT)-producing *Escherichia coli* O157 (VTEC O157) were confirmed by the Health Protection Agency Laboratory of Enteric Pathogens (LEP) from human infections in England and Wales. This was a 4% increase compared with the 675 isolates in 2003 (1), but is a 38% reduction compared with the largest number of annual isolations, which was recorded in 1997 (1097). Approximately 68% of strains had VT2 genes only and 31% had both VT1 and VT2; six isolates were VT1 only. The strains belonged to 18 designated phage types (PTs), but 74% belonged to PTs 21/28, 8, and 2. The table compares the data with those from 2003 (1), for the most frequently isolated types.

Table Predominant phage types of VTEC O157 from human infections in England and Wales: 2004 and 2003

Rank	Phage type	2004: % of total	2003: % of total (rank)
1	21/28	**29**	**35 (1)**
2	8	**23**	**26(2)**
3	2	**22**	**16 (3)**
4	32	**5**	**5(4)**
5	4	**4**	**4 (5)**

6	34	**3**	**2 (7)**
	Other	**14**	

PT21/28 continued to be most common, as seen since 1999 (2), but did not rise in frequency in 2004 and has not achieved the dominance found in Scotland over recent years (1,3). With the exception of PT34, the other most prevalent types were the same as in 2003. Approximately 4% of strains reacted with the typing phages, but did not conform to a designated type (RDNC). Provisionally, there were 13 general outbreaks of infection in 2004 of which eight were caused by PT21/28 and the rest by PT2.

Data for England and Wales differed substantially from Scotland where isolations of VTEC O157 reported to Health Protection Scotland (3) rose by 41% from 148 in 2003 to 209 in 2004. Strains of PT21/28 accounted for 58% of Scottish isolates (the lowest proportion since 1999) with PT2 (17%) and PT 8 (12%) as the next most common types that both showed significant increases in frequency over 2003. Provisional data showed that eight of the ten general outbreaks in Scotland were caused by PT21/28.

References

1. Health Protection Agency.Vero cytotoxin-producing *Escherichia coli* O157: 2003. *Commun Dis Rep CDR Wkly* [serial online] 2004 [cited 11 July]; **14**(24). Available at: <http://www.hpa.org.uk/cdr/archives/2004/cdr2402.pdf>.
2. Smith HR Cheasty T, Willshaw GA, Caprioli A, Tozzi AE,Coia JR, *et al*. Changing patterns of VTEC infection in Britain and Continental Europe. IVC News 16. *Not Ist Super Sanita* 2002; **15**(12): 4-6.
3. Health Protection Scotland. Gastro-intestinal and foodborne infections - Escherichia coli O157. *HPS Wkly Rep* [serial online] 2005 [cited 11 July 2005]; 39(01). Available at <http://www.show.scot.nhs.uk/scieh/PDF/pdf2005/0501.pdf>.

Surveillance of *Shigella boydii* and *S. dysenteriae* infection in England and Wales: 2004

The Health Protection Agency Laboratory of Enteric Pathogens (LEP) provides a reference service for the confirmation and typing of *Shigella boydii* and *S. dysenteriae*. In 2004, LEP confirmed 113 cases of *S. boydii* infection and 53 cases of *S. dysenteriae* infection from cultures referred by laboratories in England and Wales.

Sixty-two cases (55%) of *S. boydii* were reported to have acquired their infections whist travelling abroad (table). Most cases visited Asia (38) or Africa (22)

Thirty-seven cases (70%) of *S. dysenteriae* infection were reported to have acquired their infections whilst travelling abroad. Most cases visited Asia (24) and Africa (11).

Region/Country	**Number of cases**	
	S. boydii	***S. dysenteriae***
Africa		
Angola	1	–
Cameroon	1	–

Chad	1	–
East Africa	1	–
Egypt	12	6
Ethiopia	1	1
Malawi	–	1
Morocco	–	1
Mozambique	1	–
Nigeria	2	2
Tanzania	1	–
Africa not stated	1	–
Asia		
Bangladesh	3	–
India	18	8
Iraq	2	3
Nepal	1	
Pakistan	11	11
SE Asia	1	–
Yemen	–	1
Middle East		
Jordan	–	1
Caribbean		
Dominican Republic	1	–
Europe		
Spain	1	
Far East		
China	–	1
Far East unspecified	1	–
Americas		
Peru	–	1
Abroad country not specified	1	–
Country stated	62	37
Country not stated	51	16
Total	**113**	**53**