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IN THE NEWS

New TB guidelines

New TB guidelines for Ireland were published recently by the National TB Advisory Committee. All the sections from the original 1996 guidelines have been updated and a new section on infection prevention and control has been added. The recommendations in 'Guidelines on the Prevention and Control of Tuberculosis in Ireland 2010' are based on review of international literature and extensive consultation with relevant professionals. These guidelines can be found at:

<http://www.hpsc.ie/hpsc/AZ/VaccinePreventable/TuberculosisTB/Publications/>

Pneumococcal Vaccine (PPV23)

When your patients attend the surgery for their annual influenza vaccine, it may be a good time to check if they have had their Pneumococcal vaccine (PPV23).

A single dose of PPV23 vaccine is recommended for all people > 65 years of age, and younger adults and children in certain risk categories, which include those with Diabetes Mellitus and chronic heart or lung disease.

If a person has previously had PPV23 vaccine when he/she was < 65 years and the person is now 65 years or older, a repeat PPV23 vaccine dose is recommended if the first dose was given over 5 years previously

Zoonoses Conference

A two-day conference on zoonotic disease is being held on Tuesday 23rd and Wed 24th November 2010 in Rochestown Park Hotel, Cork. Full details will be circulated at a later date.

Lyme Disease

The HPSC has recently launched its awareness campaign on Lyme disease in Ireland. There are between 50-100 confirmed cases each year. The bacteria that causes Lyme Disease in humans is transmitted by tick bites. The infection is generally mild affecting only the skin, but can occasionally cause more serious symptoms involving the nervous system, joints, the heart or other tissues. Ramblers, campers, mountain bikers and people who work in forested/grassy areas are at greatest risk of being bitten. An information leaflet is available at <http://www.ndsc.ie/hpsc/A-Z/Vectorborne/LymeDisease/>

Surgical infection website

A new educational website has been launched this month www.Surginfection.com aimed primarily at surgeons in training, but open to all other healthcare professionals. It is funded by the Royal College of Surgeons (RCSI) in Ireland and forms one of the components of an initiative to enhance the quality and safety of patient care by minimising healthcare associated infection

Documents Published in 2009/2010

All available to download from <http://www.hpsc.ie/hpsc/Publications/>

- Guidelines on the prevention and control of TB in Ireland
- Prevention of intravascular catheter-related infection in Ireland
- Guidelines for antimicrobial stewardship in Hospitals in Ireland
- National guidelines for the control of Legionellosis in Ireland
- Infection prevention and Control building guidelines for Acute hospitals in Ireland
- National Hepatitis C database for infection acquired through blood and blood products: Follow-up report 2009

Use of Local Surveillance Data to Guide the Management of Commonly Encountered Infections in the Community.

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Antimicrobial resistance is well recognised as a global threat to human health and is closely linked to antimicrobial use. Good antimicrobial prescribing practice is essential not only to limit inappropriate use but also to optimise antimicrobial selection, dosing, route and duration of therapy. The aim is to strike a balance between preventing infection or maximising clinical cure and limiting the unintended consequences of antimicrobial use, such as the emergence of resistance, adverse drug reactions and cost¹.

Antimicrobial use is a key factor in the emergence of antimicrobial-resistant pathogens such as MRSA, Clostridium difficile and multi-resistant Gram-negative bacteria. Use of broad-spectrum antibiotics is particularly associated with the emergence of such pathogens. Ireland's antimicrobial consumption is high compared to most European countries¹ and recent data has revealed that antimicrobial resistance is increasing in Ireland²

Community Acquired Pneumonia (CAP) in Adults

Local surveillance data relating to CAP collected in the Southeast of Ireland for 2009 revealed:

- The predominant organism isolated from sputum samples originating in the community was Haemophilus influenzae, accounting for 34% of isolates. Of these, 93% were sensitive to amoxicillin, the antibiotic recommended for empiric treatment of CAP³.
- Streptococcus pneumoniae accounted for 12% of isolates. Eighty seven percent (87%) of these were fully sensitive to penicillins (including amoxicillin). While 13% displayed intermediate susceptibility to penicillins, no high level resistance was recorded. The rarity of documented clinical failures in penicillin-resistant pneumococcal pneumonia, if treated with adequate doses of penicillins, is the basis for the British Thoracic Society's continued endorsement of oral amoxicillin as first-line therapy at a dosage of 500mg three times a day³.
- While 14% of isolates were found to be Moraxella catarrhalis, many of these were probably not of clinical significance.
- It should be noted that while Staphylococcus aureus is an uncommon cause of CAP, it is more common during periods of high influenza activity.

Investigations are generally not necessary for patients with community-acquired pneumonia (CAP) who are managed in the community.

Chest radiography and microbiological examination of sputum should be considered for patients who do not respond to empiric antibiotic therapy. Testing of sputum for Mycobacterium tuberculosis should be considered for patients with clinical features suggestive of, or risk factors for, tuberculosis. Legionella urine antigen investigations may be considered during outbreaks or when there is a particular clinical or epidemiological reason.

Assessment of severity and treatment³

Clinical judgement should be employed when assessing disease severity and consideration paid to the patient's co-morbidities and social circumstances. The CURB65 score should be applied to support a clinical decision to treat a patient at home or to refer to hospital. To calculate the CURB65 score, score 1 point for each of the following: Confusion; Urea >7mmol/L; Respiratory rate ≥30/min; Blood pressure (SBP <90 or DBP ≤60mmHg); Age ≥65 years.

Patients with CURB65 scores of 0-1 are considered low risk (<3% mortality) and should be managed in the community. Treatment with amoxicillin 500mg TDS orally is advised. Alternative treatments include doxycycline 200mg loading dose then 100mg OD or clarithromycin 500mg BD orally. Seven days of appropriate antibiotic therapy is recommended for patients with CAP managed in the community.

When a change in empiric antibiotic therapy is considered necessary, a macrolide antibiotic (e.g. clarithromycin) could be substituted for or added to the therapy for those with low severity CAP treated with amoxicillin monotherapy.

Patients with CURB65 scores of ≥ 2 are considered high risk (mortality 9-40%) and should be referred to hospital. General practitioners should administer antibiotics prior to transferring a patient to hospital in the following situations:

- CAP considered to be potentially life-threatening
- High severity CAP where delays of over 6 hours are anticipated
- Penicillin G 1.2g IV or amoxicillin 1g orally are the preferred agents.

Urinary Tract Infections in Adults

The diagnosis of lower urinary tract infection (LUTI) is based primarily on the patient's history. However, clinical assessment should also be carried out for signs and symptoms of pyelonephritis, vaginal infection or acute urethritis. Local surveillance data collected in the Southeast of Ireland for Quarter 4 of 2009 indicates that the predominant organism isolated from midstream urine (MSU) specimens originating in the community was *Escherichia coli* (see Table 1). It should be noted that as urine samples sent for culture will largely have been taken from patients who had not responded to first-line treatment, the surveillance results relating to antibiotic resistance will be biased towards more resistant isolates. Approximately 10% of *E.coli* isolates were found to be resistant to both co-amoxiclav and ciprofloxacin.

The next most frequently isolated organisms were *Enterococcus* sp and *Proteus mirabilis*.

TABLE 1

Isolate	% Of overall isolates	Nitrofurantoin Sensitivity (%)	Trimethoprim Sensitivity (%)
<u><i>Escherichia coli</i></u>	74%	97%	69%
<i>Enterococcus</i> sp	6%	100%	N/A
<i>Proteus mirabilis</i>	4%	0%*	69%

N/A=not applicable

**Proteus mirabilis* is inherently resistant to nitrofurantoin so total resistance to this antibiotic is as expected

The Health Protection Agency's (HPA) guidelines, for the diagnosis of urinary tract infection (UTI) in primary care⁴, state that routine urine culture is unnecessary for acute uncomplicated UTI in adult women. In otherwise healthy women presenting with symptoms and signs of UTI, empiric treatment with an antibiotic should be considered. If upper UTI is suspected, urine culture should be performed and empiric treatment with an antibiotic started⁵.

Assessment of symptoms

(Adapted from HPA guidelines for diagnosis of UTI, October 2009)⁵

Patients who present with 3 or more typical symptoms of UTI (dysuria, urgency, frequency, polyuria, suprapubic tenderness, haematuria) with no vaginal discharge or irritation are 90% likely to have a positive urine culture. Dipstick testing is not necessary prior to commencing empiric antibiotic treatment.

Near patient tests include macroscopic appearance of the urine sample and dipstick testing. Dipstick tests should only be used to diagnose bacteriuria in women with limited symptoms and signs (no more than 2 symptoms).

When should laboratory testing for culture and sensitivity be performed?

- Pregnancy
 - In all at first antenatal visit
 - If symptomatic
- Suspected pyelonephritis
- Suspected UTI in men
- Failed antibiotic treatment or persistent symptoms
- Abnormalities of the genitourinary tract
- Renal impairment

Note: bacteriuria is usual in catheter urine specimens, so a sample should only be sent on catheterised patients if there are features of systemic infection.

Treatment of UTI

A **3-day** antimicrobial regimen is the recommended treatment for uncomplicated acute bacterial cystitis in women, with bacterial eradication rates consistently higher than 90%⁶. Non-pregnant women of any age with symptoms or signs of LUTI should be treated with trimethoprim or nitrofurantoin for 3 days^{4,5}. Patients who do not respond to trimethoprim or nitrofurantoin should have urine sent for culture and sensitivity testing to guide further treatment.

Fluoroquinolone antibiotics (e.g. ciprofloxacin, levofloxacin, moxifloxacin, ofloxacin or norfloxacin) **SHOULD NOT** be used for empiric treatment of LUTI.

For acute pyelonephritis, inpatient or outpatient therapy should continue for 14 days⁶. Urine should be sent for culture and sensitivity, but treatment should not be withheld pending results. Empiric treatment of acute pyelonephritis includes co-amoxiclav or ciprofloxacin. If there is no clinical response within 24hrs, the patient should be referred for hospital admission.

Gastrointestinal Tract Infection (GTI) in Adults

Acute diarrhoea in immunocompetent individuals in the developed world is usually self-limiting. However it can cause significant morbidity and mortality in some individuals, particularly the elderly and the immunocompromised. Local surveillance data collected in the Southeast of Ireland for 2009 indicates that *Campylobacter* species accounted for 57% of pathogens identified from faecal specimens. The other most frequently identified organisms were *Cryptosporidium* (20%), *Salmonella* sp (11%) and *Escherichia coli* 0157 (7%). It should be noted that most cases of acute infectious gastroenteritis are probably viral.

Diagnosis

It is generally unnecessary to send faecal specimens for culture as the majority of causes of acute diarrhoea are self-limiting. It is reasonable to treat symptomatically for several days before considering further evaluation. Consider faecal specimens for culture on initial presentation when patient:
has fever; blood in stool; >=6 unformed stools in 24 hours or severe abdominal pain; is a food handler, care worker or other relevant professional; has inflammatory bowel disease; is immunocompromised or has other underlying co-morbidities; has had recent antibiotic treatment or admission to hospital (consider *Clostridium difficile*). Public Health should be notified if an outbreak of gastroenteric illness is suspected.

Treatment

The majority of cases of acute infectious diarrhoea will not require any specific treatment, as they are self-limiting. First-line treatment consists of hydration and alteration of diet. The 2001 Infectious Diseases Society of America (IDSA) practice guidelines concluded that any consideration of antimicrobial therapy must be carefully weighed against unintended and potentially harmful consequences⁷ (See table 2).
Empiric antibiotic therapy may be considered in the following groups:

- Patients with moderate to severe travellers' diarrhoea as characterized by >4 unformed stools daily, fever, blood, pus, or mucus in the stool
- Patients with >8 stools per day
- Dehydration
- Symptoms >1 week
- Immunocompromised
- If hospitalisation necessary

Antibiotics should not be administered if there is any suspicion of enterohaemorrhagic *E.coli*, e.g. *E.coli* 0157, as this may increase the risk of developing haemolytic uraemic syndrome. **The majority of patients do not require treatment for infectious diarrhoea.** However, antibiotic therapy may be indicated in certain circumstances, e.g. severe/persistent symptoms or if immunocompromised.

Table 2 Specific antibiotic therapy*

Organism	Treatment
<i>Campylobacter</i> sp.	No treatment* or Erythromycin 500mg qds for 5 days
<i>Escherichia coli</i> 0157	STOP ANTIBIOTICS
Non-typhoid Salmonellosis	No treatment* or Ciprofloxacin 500mg bd for 5-7 days
Enteric fever, including typhoid fever	Ciprofloxacin 500mg bd for 7 days
Shigellosis	Ciprofloxacin 750mg od for 3 days
<i>Clostridium difficile</i>	Stop unnecessary antibiotics and/or PPIs Metronidazole 400mg tds orally for 10 days Vancomycin 125mg qds orally for 10 days for severe CDI or 3 rd episode of CDI

*The majority of patients with acute infectious diarrhea will NOT require treatment with antibiotics. See advice above re treatment.

Useful information may be found in the Regional Microbiology User Manual (www.hse.ie/go/wrhlab)

1. Guidelines for Antimicrobial Stewardship in Hospitals in Ireland. SARI Hospital Antimicrobial Stewardship Working Group, December 2009, ISBN 978-0-9551236-7-2
2. Health Protection Surveillance Centre: Annual Report 2007. HSE Health Protection Surveillance Centre, 2008. ISSN 1649-0436.
3. Guidelines for the Management of Community Acquired Pneumonia in Adults: Update 2009, British Thoracic Society Community Acquired Pneumonia in Adults Guideline Group; Thorax October 2009, Vol 64: Supplement III
4. Diagnosis of UTI: Quick Reference Guide for Primary Care, Management of Infection Guidance for Primary Care. HPA, October 2009
5. Management of Suspected Bacterial Urinary Tract Infection in Adults. A national clinical guideline. Scottish Intercollegiate Guidelines Network (SIGN); 2006 Jul (SIGN publication no.88)
6. Treatment of Urinary Tract Infections in Non-pregnant Women. American College of Obstetricians and Gynaecologists (ACOG); 2008 Mar (ACOG practice bulletin; no. 91)
7. Guerrant, RL, Van Gilder, T, Steiner, TS, et al. Practice Guidelines for the Management of Infectious Diarrhea. Clin Infect Dis 2001; 32:331.

Statutory Notification of Infectious diseases

The table below shows cases of infectious diseases notified in the HSE/SE area only under Infectious Disease (Amendment No.3) Regulations 2003 (S.I. No. 707 of 2003).

With the exception of TB, data has been extracted from CIDR (Computerized Infectious Disease Reporting).

Disease	2008	2009	2010 ¹
	week 1-26 Cases	week 1-26 Cases	week 1-26 Cases
Acute infectious gastroenteritis ²	334	531	540
Bacterial meningitis (not otherwise specified)	1	4	6
Brucellosis	0	0	0
Campylobacter infection	69	96	104
Chlamydia trachomatis ³	NA	346	348
Creutzfeldt Jacob disease	0	0	0
Cryptosporidiosis	40	42	44
Enterohaemorrhagic E. coli	3	6	1
Giardiasis	3	1	0
Gonorrhoea ³	NA	31	37
Haemophilus influenzae disease (invasive)	3	3	4
Hepatitis A Acute	3	2	0
Hepatitis B Acute	4	6	4
Hepatitis B Chronic	26	24	16
Hepatitis C	23	18	21
Herpes Simplex (genital) ³	NA	19	22
Influenza (non-A/H1N1)	20	24	0
Influenza (A H1N1) ⁴	0	9	8
Legionellosis	0	0	1
Leptospirosis	1	1	1
Listeriosis	0	1	1
Malaria	3	1	5
Measles	2	15	18
Meningococcal disease	14	12	12
Mumps	37	277	14
Noroviral infection	54	53	113
Paratyphoid	0	2	0
Pertussis	1	0	2
Rubella	5	2	4
Salmonellosis	15	15	11
Shigellosis	1	0	1
Streptococcus group A (invasive)	5	5	3
Streptococcus pneumoniae (invasive)	49	58	71
Syphilis ³	NA	17	17
Tetanus	0	0	0
Toxoplasmosis	2	0	0
Trichomoniasis ³	NA	7	4
Tuberculosis	16	18	21
Typhoid	0	1	0
Viral encephalitis	0	1	1
Viral Meningitis	4	6	2
Total	738	1654	1457

¹ Provisional data

² Since May 1st 2008 acute infectious gastroenteritis also now include Clostridium difficile cases

³ STI data shown is from laboratory only and does not contain data for ano-genital warts or non-specific urethritis. NA= Validated data not available prior to 2009

⁴ Influenza A/H1N1 was only notifiable in its own right from April 2009



Immunisation uptake in the HSE-SE and in Ireland

Immunisation uptake rates for children at 12 months and 24 months of age.

	% Uptake at 12 months of age									
	BCG	D ₃	P ₃	T ₃	Hib ₃	Polio ₃	HepB ₃	MenC ₃	MenC ₂	PCV ₂
HSE SE Q4 2009	95	90	90	90	90	90	90	NA	90	90
CW/KK	95	88	88	88	88	88	89	NA	88	88
TS	95	93	93	93	93	93	93	NA	93	93
WD	92	88	88	88	88	88	88	NA	88	88
WX	97	92	92	92	92	92	91		92	92
National Q4 2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HSE SE Q4 2008	94	90	89	90	89	89	NA	89	NA	NA

NA Not available at time of going to print

	% Uptake at 24 months of age							
	D ₃	P ₃	T ₃	Hib ₃	Hib _b	Pol ₃	MenC ₃	MMR ₁
HSE SE Q4 2009	93	92	93	92	88	92	91	91
CW/KK	90	90	90	90	87	90	89	91
TS	93	93	93	92	89	93	91	93
WD	92	91	92	91	86	91	90	88
WX	96	96	96	95	90	95	95	92
National Q4 2009	NA	NA	NA	NA	NA	NA	NA	NA
HSE SE Q4 2008	92	92	92	92	90	92	91	89

* Hib_b figure for 24 months does not include those who have had a Hib dose >12 months as part of 5IN1/6IN1

The new primary immunisation schedule commenced in September 2008 for children born on or after July 1st, 2008 (see www.immunisation.ie for complete details). The immunisation uptake rates presented in this report for children at 12 months of age in Quarter 4-2009 are children born between 31/10/2008 and 31/12/2008 and who have been immunized according to the new schedule. They have received three doses of vaccines against diphtheria (D₃), pertussis (P₃), tetanus (T₃), Haemophilus influenzae type b (Hib₃), polio (Polio₃), hepatitis B (HepB₃), two doses of meningococcal serogroup C conjugate vaccine (MenC₂), two doses of pneumococcal conjugate vaccine (PCV₂) and one dose of BCG vaccine.

Uptake of immunisations in the South East at 12 months of age increased by 1% compared with the same period in 2008. For children aged 24 months of age in the South East in Q4-2009, immunisation uptake rates increased by between 1-2% compared with Q4, 2008. The target uptake rate of ≥ 95% was achieved by all LHOs for BCG at 12 months and for D₃, P₃, T₃, Hib₃, Pol₃ and MenC₃ in Wexford at 24 months in Q4 2009.

Infectious Disease Notification: contact information

Medical practitioners and Clinical directors of diagnostic laboratories are required to transmit a written or electronic notification of a notifiable infectious disease to a Medical Officer of Health (the Infectious Diseases (Amendment) Regulations, 2000 (S.I. No 151 of 2000)). Printed copies of 'Case Definitions for Notifiable diseases' which include a booklet of standard notification forms are available from regional public health department offices, to which notifications should be returned.

Notifications can be phoned: 056 7784142, faxed: 056 7784599 or posted to:

Public Health Department, HSE South (SE), St Canice's Hospital, Lacken, Dublin Road, Kilkenny

This report is produced with the data provided by the Senior Medical Officers, Environmental Health Officers, Waterford Regional Hospital Laboratory, Hospital Clinicians, Regional STI Clinics and General Practitioners.

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