



Antimicrobial Resistance

Infection Control Branch
Centre for Health Protection



衛生署
Department of Health

全球迅速蔓延 隨時社區爆發

抗藥大腸桿菌 殺入香港

健康危機

帶 新抗藥基因的大腸桿菌正蔓延全球，但原來該菌去年已悄悄殺入香港。

衛生防護中心近日調查資料，發現去年有一印度裔老翁曾感染此超級惡菌致尿道炎，幸服抗生素後痊癒。港大感染及傳染病中心總監何栢良警告，新超級惡菌亦已入侵社區，不排除再傳出其他感染個案。提醒醫護人員及市民注重個人衛生，慎防中招。另促港府密切監控其散播情況，以防惡菌在本港落地生根。

衛生署轄下公共衛生化驗服務處的化驗發現，去年十月在一名向普通科門診求醫的六十六歲印度裔男子尿樣檢本內，發現有新抗藥基因NDM-1的大腸桿菌。防護中心指，老翁服用常用於治療尿道炎的口服抗生素後已痊癒。顯示該菌對抗生素仍有效。

去年印裔翁曾受感染

防護中心會向醫生發信，通知抗藥惡菌的最新情況，另與各醫院實驗室聯繫，制訂加強監測此菌的安排。中心繼續，據海外報告顯示，新抗藥基因對某組別的抗生素失去功效，包括碳青霉烯類和哌內酰胺類抗生素，因而令細菌變成抗藥性。中心正與世界衛生組織和有關衛生機構推行宣傳。

何栢良稱：「大腸桿菌有新抗藥基因，會令抵抗抗藥性更堅強，健康人士感染機會好。但體弱人士中招後更麻煩。他促市民切勿輕視惡菌，散播情況，並在醫院做好防控工作。醫生亦要小心處方抗生素。另外，市民要時刻採取防護措施，防止惡菌落地生根。他懷疑該老翁返印度家鄉時染病。傳染病專科醫生勞永樂認為，全球人應提高警覺和返印度家鄉時，令抗藥細菌經運輸工具傳到各地，當局應定期檢討感染控制措施和評



何栢良促港府做好監察惡菌的工作，阻止其在本港落地生根。(黃興攝)

本港發現末日細菌示意图



資料來源：衛生防護中心



■本港發現首宗帶有抗藥基因 NDM-1 的大腸桿菌，該基因可依附在任何病菌內成為威脅全球的原因。 五聯攝

末日細菌襲港 入血攞命

【本報訊】無藥可醫的末日細菌正橫掃全球，並已悄悄傳入本港。繼英美等七個國家，有人由南亞傳入帶有超級抗藥基因NDM-1的惡菌後，本港衛生防護中心昨證實，早在去年10月，一名曾向普通科門診求醫的印度男子，已感染帶有該抗藥基因的大腸桿菌，惟衛生防護中心相隔10個月才公佈事件。有微生物學家表示，該惡菌入血更可奪命。

該菌源自南亞國家的抗藥基因名為New Delhi metallo-β-lactamase-1 (NDM-1)，即新德里金屬β-內酰胺酶。該基因一旦依附在細菌上，會令細菌出現嚴重抗藥性，甚至最後防線的碳氫醯酶類及滲入膜抗生素也無藥可醫，變成無藥可醫。

全球首宗個案，是前年在一瑞典病人身上發現，該病人曾在印度新德里的醫院接受治療。這種末日細菌起源於印度及巴基斯坦，令不少當地病人出現尿道炎、肺炎及入血的感染。

至今傳入最少七個國家

末日細菌至今傳入最少七個國家，其中美國有3宗，英國有5宗，加拿大有2宗，荷蘭及瑞典亦有出現，當中不少病人曾在印度或巴基斯坦入院治療，如進行整容及器官移植手術。

但國際權威《刺針》醫學雜誌刊登的研究顯示，部份人在印巴時其實沒有入院，卻沒有交代是否社區感染；病人主要感染抗藥性大腸桿菌及克雷伯氏菌。

港府相隔10個月才公佈

原來，早於去年10月末日細菌已襲港。衛生防護中心昨表示，一名66歲印度男子去年10月在公立醫院普通科門診求醫，其尿樣檢本顯示含有含NDM-1的大腸桿菌。但該男子服食常用於治療尿道炎的抗生素後已康復。但該中心未能解釋為何病人早於去年求診，但相隔10個月才公佈結果，亦未有交代病人家屬有否病徵等資料。

惡菌不斷在社區傳播。抗藥基因NDM-1可依附在不同細菌上，現時最常見是大腸桿菌家族，可引致病人出現尿道炎；手術後感染惡菌更可引致血中毒或敗血症而致命；若依附在其他細菌身上，無藥可醫的惡菌便會越來越多。

病人病徵主要視乎感染細菌的種類，如感染帶有NDM-1的大腸桿菌可引致尿道炎，病人會尿頻及尿急等。抗藥大腸桿菌可透過口糞傳播，如病人如廁後沒有洗手再食，其他人進食受污染的食物後就會受感染。

主要透過醫療旅遊傳播

何栢良表示，政府應該趁末日細菌仍未落地生根，重新評估形勢以及制訂預防措施。這菌主要透過醫療旅遊傳播，馬禮醫院去年起實施監察機制，若病人曾經在海外入住院，馬禮會為病人測試是否有抗藥惡菌，如社區感染抗藥性金屬β-內酰胺酶或抗萬古素大腸桿菌，並會安排帶菌病人接受隔離。今日起馬禮會加入監察病人有否帶有NDM-1的抗藥惡菌。何栢良認為，措施應在所有的公立醫院推行，所需資源不太多，主要是視乎管理層是否重視預防抗藥惡菌。

蘋果網貼片 www.appleaily.com.hk

新型超級惡菌 去年已襲港

【明報專訊】首見於印巴、擁有新型抗藥基因NDM-1的超級惡菌，原來早在去年10月已入侵本港。衛生署證實一名在普通科門診求醫的66歲印度裔男子，尿液樣本驗出一株含NDM-1的大腸桿菌出現。專家警告，超級抗藥惡菌已在本港悄悄傳播，醫院門診應盡快加強監察把關，病人前往印巴等地也要注意衛生，以防中招。

抗生素全部無效

瑪麗醫院今日起會採取新措施，在原有針對曾往海外接受治療或整形手術者的「驗菌套餐」內，加入化驗抗藥基因NDM-1細菌，以防超級抗藥菌在醫院傳播。衛生署表示，他們會與醫院實驗室聯繫，制訂加強監測該細菌的安排。

國際醫學期刊《刺針》日前報道，南亞地區出現了一種超級細菌，幾乎所有抗生素均無法治療，該病菌

正蔓延至英、美、澳洲、荷蘭及瑞典，現時世界各地最少有逾百萬人受感染。大部分曾在印度、巴基斯坦等地接受整形手術或醫學治療，單是英國已發現50宗個案。

衛生署翻查公共衛生化驗服務處的化驗結果，發現一名在去年10月於普通科門診求醫的66歲印度裔男子，其尿液樣本內有一株含有NDM-1的大腸桿菌，至於該名病人是在哪個地區診所求醫、在何時感染此菌、染菌前曾否到印度或巴基斯坦等地地方接受過手術等資料，衛生署均未有進一步提供。

但衛生署發言人強調，該病人驗出的細菌株，對常用的治療尿道感染口服抗生素仍有反應，即仍有藥可醫。衛生防護中心現正與世界衛生組織和有關衛生機構，跟進新型抗藥基因NDM-1細菌個案，以進一步了解情況。副衛生署長譚耀芬說，由於此細菌可能經手術感染，已囑咐醫護人員留意及小心處方抗生素。

可在不同細菌轉移 或已傳開

港大感染及傳染病中心總監何栢良警告，擁有NDM-1抗藥基因的細菌，並不止在單一細菌出現，而是可以在不同種類的細菌之間轉移，在「大腸桿菌家族」中，多種菌亦已發現有此基因。他坦言，本港在去年10月已有個案，意味此菌在過去10個月內可能悄悄傳播。

雖然帶有抗藥基因的大腸桿菌殺傷力暫時與一般大腸桿菌無異，但何栢良說，當此抗藥基因細菌在醫院內擴散，令多種菌也帶有此抗藥基因，手術後體弱病人染上此類超級抗藥惡菌便極危險，即使俗稱「抗生素大藥」的最廣效抗生素（碳氫醯酶類）和「滲入膜」也不能治理，病人會有即時生命危險。而這兩種抗生素是惡菌的重點抗生素，屬於「最後防線」。

超級抗藥惡菌 NDM-1

- Q: NDM-1是什麼?
A: NDM-1全名為New Delhi metallo-β-lactamase-1是一種酶(enzyme)，帶有此酶的細菌對現時被稱為「抗生素大地」的最廣效抗生素「碳氫醯酶類」(Carbapenems)和「滲入膜」(β-lactams)，均呈抗藥反應，亦即是有抗藥的基因，成為「超級惡菌」，此種酶能在不同種類的細菌之間轉移。
 - Q: 此類「超級惡菌」暫時多見於哪些病人?
A: 英美醫學界發現，病人都曾前往印度或巴基斯坦接受整形手術或其他醫學治療，這些病人其後返回英美，便將超級惡菌傳染其他病人。
 - Q: 哪些細菌已帶有NDM-1抗藥基因?
A: 主要發現在「大腸桿菌家族」。
 - Q: 殺傷力特別強？是否無藥可醫？
A: 帶有此抗藥基因的細菌殺傷力並非特別強，不過，當帶菌者本身抵抗力弱，如大手術後感染此帶有抗藥基因的細菌，因未能即時有抗生素治療，便可迅速致命。
- 資料來源：綜合外電和本港專家意見



衛生署

Department of Health

Antibiotic Resistance

- Antibiotic resistance is an increasingly serious public health problem worldwide, including Hong Kong.
- It threatens the effectiveness of antibiotics now and in the future.



Antibiotic Exposure

- Antibiotic exposure leads to emergence of antibiotic resistance.
- Overall uptake of antibiotics in a population, as well as how the antibiotics are consumed, has an impact on antibiotic resistance.



Emergence of a new antibiotic resistance mechanism in India, Pakistan, and the UK: a molecular, biological, and epidemiological study



Karthikeyan K Kumarasamy, Mark A Toleman, Timothy R Walsh, Jay Bagaria, Fafhana Butt, Ravikumar Balakrishnan, Uma Chaudhary, Michel Doumith, Christian G Giske, Seema Irfan, Padma Krishnan, Anil V Kumar, Sunil Maharjan, Shazad Mushtaq, Tabassum Noorie, David L Paterson, Andrew Pearson, Claire Perry, Rachel Pike, Bhargavi Rao, Ujjwayini Ray, Jayanta B Sarma, Madhu Sharma, Elizabeth Sheridan, Mandayam A Thirunarayan, Jane Turton, Supriya Upadhyay, Marina Warner, William Welfare, David M Livermore, Neil Woodford

Summary

Background Gram-negative Enterobacteriaceae with resistance to carbapenem conferred by New Delhi metallo- β -lactamase 1 (NDM-1) are potentially a major global health problem. We investigated the prevalence of NDM-1, in multidrug-resistant Enterobacteriaceae in India, Pakistan, and the UK.

Methods Enterobacteriaceae isolates were studied from two major centres in India—Chennai (south India), Haryana (north India)—and those referred to the UK's national reference laboratory. Antibiotic susceptibilities were assessed, and the presence of the carbapenem resistance gene *bla*_{NDM-1} was established by PCR. Isolates were typed by pulsed-field gel electrophoresis of XbaI-restricted genomic DNA. Plasmids were analysed by S1 nuclease digestion and PCR typing. Case data for UK patients were reviewed for evidence of travel and recent admission to hospitals in India or Pakistan.

Findings We identified 44 isolates with NDM-1 in Chennai, 26 in Haryana, 37 in the UK, and 73 in other sites in India and Pakistan. NDM-1 was mostly found among *Escherichia coli* (36) and *Klebsiella pneumoniae* (111), which were highly resistant to all antibiotics except to tigecycline and colistin. *K pneumoniae* isolates from Haryana were clonal but NDM-1 producers from the UK and Chennai were clonally diverse. Most isolates carried the NDM-1 gene on plasmids: those from UK and Chennai were readily transferable whereas those from Haryana were not conjugative. Many of the UK NDM-1 positive patients had travelled to India or Pakistan within the past year, or had links with these countries.

Interpretation The potential of NDM-1 to be a worldwide public health problem is great, and co-ordinated international surveillance is needed.

Funding European Union, Wellcome Trust, and Wyeth.

Press Releases

CHP attaches great importance to antibiotic resistant bacteria

A spokesman for the Centre for Health Department (CHP) of the Department of Health today (August 12) said CHP attached great importance to an overseas report concerning the emergence of new antibiotic resistant organisms harbouring New Delhi metallo- β -lactamase 1 (NDM-1).

NDM-1 is an enzyme which can inactivate certain groups of antibiotics (e.g., carbapenems, beta-lactams), thus conferring multi-drug resistance to bacteria bearing this enzyme.

"We are following up with the World Health Organization and the respective health authorities to understand more of the situation," a CHP spokesman said.

"We are also liaising with hospital laboratories to formalise an enhanced surveillance arrangement for such organisms.

The spokesman noted that CHP's Public Health Laboratory Services Branch (PHLSB) had all along been monitoring the antibiotic resistance pattern of bacteria.

"According to test results of PHLSB, there was one isolate of E. coli harbouring NDM-1 in a 66-year-old male patient attending a government out-patient clinic in October 2009.

"The organism was however susceptible to oral antibiotic agents commonly used to treat urinary tract infection," the spokesman said.

The patient fully recovered.

CHP will issue letters to doctors to alert them of the situation and will remain vigilant for changes in antibiotic resistance that may have public health significance, he added.

Ends/Thursday, August 12, 2010
Issued at HKT 21:13

NNNN



12 August 2010

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CHP

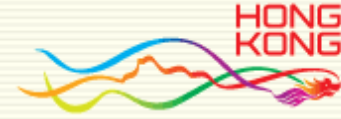


Centre for Health Protection

Department of Health

The Government of the Hong Kong Special Administrative Region



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16 August 2010

Proper Use of Antibiotics



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Pamphlet



- Beware of Antibiotics Resistance Use Antibiotics Properly

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Health Talk Slide



- [Proper Use of Antibiotics](#)



FAQ



Department of Health

The Centre for Health Protection is a professional arm of the Department of Health for disease prevention and control



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Department of Health

<http://www.chp.gov.hk/en/content/9/460/13039.html>

New Poster & Banner on Antibiotics



睇醫生 問清楚
 Ask the right questions

抗生素 咪食錯
 Use antibiotics smartly

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世界衛生日
 World Health Day
 7. 4. 2011

善用抗生素 保護生命
 Safe Use of Antibiotics Save Lives

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New Pamphlet

善用抗生素 Smart Use of Antibiotics

病菌 Germs	病例 Disease example(s)
細菌 Bacteria	
大腸桿菌 <i>Escherichia coli (E.coli)</i>	尿道炎、腸胃炎 Urinary tract infection, diarrhoeal diseases
肺炎球菌 <i>Streptococcus pneumoniae</i>	肺炎、中耳炎 Chest infection, middle ear infection
金黃葡萄球菌 <i>Staphylococcus aureus</i>	皮膚及軟組織感染 Skin and soft tissue infection
病毒 Viruses	
鼻病毒 Rhinovirus	傷風 Cold
流行性感冒病毒，如H1N1, H3N2 Influenza virus, e.g. H1N1, H3N2	流行性感冒 Influenza
水痘帶狀疱疹病毒 Varicella-zoster virus	水痘 Chickenpox
腸病毒 Enterovirus	手足口病 Hand, foot and mouth disease

- 2) 如果發燒，是否需要抗生素？ 2) If I have fever, do I need antibiotics?
- 發燒是常見的病徵，不一定由細菌引致；如果出現發燒，請先諮詢你的醫生。
 - Fever is a common symptom which may or may not be caused by bacteria. If you have fever, please consult your doctor first.
- 3) 如鼻涕呈現黃色或綠色，是否需要抗生素？ 3) Do I need antibiotics when my nasal discharge changes to yellow or green?
- 傷風或流感時，鼻涕轉濃及呈現黃色或綠色是常見的，不一定表示你已患上細菌感染。如有疑問，請諮詢你的醫生。
 - It is quite normal for the discharge to become thick and change colour during a cold or flu. There may or may not be an associated bacterial infection. If you have queries, please consult your doctor.

睇醫生問清楚 抗生素咪食錯

Ask the right questions Use antibiotics smartly

衛生防護中心網站

Centre for Health Protection Website www.chp.gov.hk

衛生署24小時健康教育熱線

24-Hour Health Education Hotline of the Department of Health 2833 0111

二零一一年三月印製
Printed in March 2011



睇醫生問清楚
Ask the right questions

抗生素咪食錯
Use antibiotics smartly

衛生防護中心
Centre for Health Protection

衛生署
Department of Health

New Pamphlet

善用抗生素 Smart Use of Antibiotics



抗生素不是萬能藥

Antibiotics are not panacea

- 抗生素只適用於治療細菌性感染，但不能治療所有感染；對由病毒引致的疾病，如傷風和流行性感冒（流感）是沒有療效的。
- 患上一般傷風和流感時，使用抗生素**不會**：
 - 治癒感染
 - 加速痊癒

- Antibiotics are effective for treating bacterial infections but they cannot treat all types of infections. They do not work for viral infections like cold and influenza (flu).
- Taking antibiotics for cold and flu will **NOT**:
 - cure the infections
 - make you recover faster

Cold and flu No antibiotics please

傷風和流感 不需抗生素

抗生素可以是有害的

Antibiotics can be harmful

抗生素可引致不良後果，例如：

- 副作用，包括噁心、嘔吐、便秘或腹瀉、和頭痛
- 過敏反應，如紅疹、皮膚痕癢、呼吸困難
- 抗藥性：抗生素雖然可以治療細菌感染，但亦可同時殺死身體內的正常細菌，增加感染抗藥性細菌的風險，抗藥性細菌感染是很難醫治的。近年數據顯示抗藥性細菌日漸增多，並對大眾健康造成嚴重威脅。

Antibiotics may cause adverse outcomes such as

- side effects, which include nausea, vomiting, constipation or diarrhoea and headache
- allergic reactions such as rash, itchiness, breathlessness
- drug resistance: while antibiotics will kill the germs, they will also kill the normal bacteria in our bodies and increase the risk of acquiring more resistant bacteria. Infections due to resistant bacteria are difficult to treat. As shown by data in recent years, antibiotic resistance in bacteria has been increasing and posing a significant threat to population health.



善用抗生素 Smart Use of Antibiotics

如何護理傷風和流感

What to do for cold and flu?



- 充足休息和多喝水。如徵狀持續，便應求醫
- 遵從醫生的建議使用藥物
- 切勿要求醫生處方抗生素
- 不要自行使用抗生素

- Have adequate rest and drink plenty of water. If symptoms persist, consult your doctor
- Follow your doctor's advice on the use of drugs
- Do not push your doctor to prescribe antibiotics
- Do not self-medicate antibiotics

必須權衡利弊，才使用抗生素。

Use antibiotics only when they are likely to be beneficial.



常見問題

Frequently asked questions

1) 細菌和病毒有什麼分別？

- 細菌和病毒各有不同特性，可引致不同的疾病，治療的藥物亦不同。其實大部份的上呼吸道感染屬病毒感染，故無須使用抗生素。以下表列一些細菌和病毒，與其引致疾病的例子：

1) What is the difference between bacteria and viruses?

- Bacteria and viruses have different properties and may cause different illnesses which respond to different types of drugs. Indeed, most cases of upper respiratory tract infections are caused by viruses which do not need prescription of antibiotics. The following table shows some examples of bacteria and viruses as well as the diseases they cause:





保障市民健康
Protecting Hong Kong's health



Department of Health
Hong Kong SAR

Feature:

An overview of surveillance of antimicrobial resistance by CHP in Hong Kong

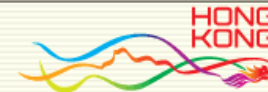


An overview of surveillance of antimicrobial resistance by CHP in Hong Kong

Reported by DR JANICE YC LO, Consultant Medical Microbiologist, Public Health Laboratory Services Branch, DR ANDREW TY WONG, Head, Infection Control Branch, CHP and DR CM TAM, Head, Public Health Services Branch, DH.

Antimicrobial resistance is an issue which directly impacts on patient management, and is also of public health concern. Emerging multi-antimicrobial resistance in various bacterial pathogens threatens the availability of therapeutic options. The Centre for Health Protection (CHP) has been keeping track of various resistant organisms of public health significance over the years, through testing of specimens sent by various public and private hospitals and out-patient clinics. Below we summarize the surveillance findings so far according to the results of Public Health Laboratory Services Branch (PHLSB). In addition, public hospital laboratories also conduct laboratory diagnosis for such infections and these are not covered in the present analysis (except HA-MRSA).

CD Watch — Aug 1 – Aug 14, 2010



- Home
- About Us
- Scientific Advisory Structure
- Risk Communication Advisory Group
- Health Topics
- Statistics
- Recommendations
- Publications
- Infection Control Corner
- Media Room
- Training and Events
- e-Resources
- Other Languages
- Related Links

- General Public
- Health Professionals
- Institutions & Schools
- Business & Workplace

- Font Sizes
- RSS

[Home](#) > [Publications](#)

Publications

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- [Centre for Health Protection Strategic Plan 2010 - 2014](#) (9.43 Mb)
- [Hong Kong's preparedness for influenza pandemic-Prevention and Protection](#) (4.15 Mb)
- [Centre for Health Protection Strategic Plan on Prevention and Control of Communicable Diseases 2007-2009](#) (11.16 Mb)
- [Emergency Preparedness for Influenza Pandemic in Hong Kong](#) (474.97 Kb)
- [Influenza Pandemic Preparedness Information Kit for Health Care Workers](#) (1.28 Mb)
- [Framework of Government's Preparedness Plan for Influenza Pandemic](#) (172.93 Kb)
- [CHP Objectives & Strategies 2004-2006](#) (1.89 Mb)

[Infection Control Branch](#)

- [Infectious Disease and Infection Control resources : Fact Sheets / Guidelines/ Training materials jointly developed by Infection Control Branch of Centre for Health Protection and Infectious Disease Control Training Centre of Hospital Authority](#)

[Public Health Laboratory Services Branch](#)

- **Laboratory surveillance**
 - [Virus Isolation and Serology Testing \(Respiratory Pathogens\)](#)
 - [Antiviral Resistance of Influenza Viruses Isolated in Hong Kong](#)
 - [Bacterial Pathogen Isolation and Percentage of Antimicrobial Resistance - Out-patient Setting](#)
 - [Serotyping results of *Streptococcus pneumoniae* isolates from blood and cerebrospinal fluid specimens](#)
 - [Laboratory surveillance on multi-antimicrobial resistant bacteria](#)

[Other guidelines on public health laboratory](#)

- [Microbiology Division](#) (237.30 Kb)
- [Virology Division](#) (499.64 Kb)



Department of Health

The Centre for Health Protection is a professional arm of the Department of Health for disease prevention and control.



衛生署
Department of Health

Scientific Committee on Infection Control, CHP



Photo taken in 2007

HPPAR, SCIC, CHP



Health Protection Programme on Antimicrobial Resistance, 2010

Optimising antimicrobial prescription in hospitals by introducing an antimicrobial stewardship programme in Hong Kong: consensus statement

**改善醫院內處方抗生素而在香港設立抗生素導向計劃的結論
綜述**

Hong Kong Med J 2006;12:141-8

**Subcommittee for Health Protection
Programme on Antimicrobial
Resistance, Centre for Health
Protection, Department of Health**

Reducing bacterial resistance with

IMPACT

Chemotherapy Interhospital Multi-disciplinary Programme on Antimicrobial



Proper Use of Antibiotics

- In 2007/08, the DH launched a community-wide promotion campaign to enhance public knowledge and awareness of when antibiotics work and the importance of proper use of antibiotics.
- The messages are:-
 - ◆ Antibiotics are not panacea. Do not take antibiotics without medical advice. All antibiotics carry some side effects.
 - ◆ Unnecessary or improper use of antibiotics can make bacteria stronger and harder to kill.

Proper Use of Antibiotics

- In 2009, the public is advised to enhance their personal hygiene while they are taking antibiotics.
- The personal protection measures are:-
 - ◆ Practise frequent hand hygiene
 - ◆ Eat or drink only thoroughly cooked or boiled items
 - ◆ Disinfect and cover all wounds
 - ◆ Wear mask if you have respiratory infection symptoms
 - ◆ Young children with symptoms of infection should minimise contact with other children



Cue Card



使用抗生素可治療細菌感染，但同時亦會殺死身體內之正常細菌，及增加感染抗藥性細菌的風險。

為了保障使用抗生素者的健康，請注意：

1. 時刻保持手部衛生
2. 食水和食物必須徹底煮沸及煮熟
3. 消毒及覆蓋傷口
4. 當有呼吸道感染徵狀時，請戴上口罩
5. 有傳染病徵狀的幼童，應盡可能減少接觸其他兒童



While taking antibiotic which is necessary to cure your infection, the antibiotic also kills the normal bacteria in your body and predisposes you to acquire more resistant bacteria.

Therefore, you should enhance personal hygiene by:

1. Practise frequent hand hygiene
2. Eat or drink only thoroughly cooked or boiled items
3. Disinfect and cover all wounds
4. Wear mask if you have respiratory infection symptoms
5. Young children with symptoms of infection should minimize contact with other children



Antibiotics Bag / Bottle Label



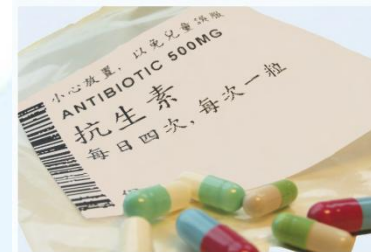
Antibiotics Bag / Bottle Label

ENGLISH

- This contains antibiotics. Please follow your doctor's or pharmacist's instructions in taking it.
- If suspected of allergic reaction (for example, skin rash or shortness of breath) after taking antibiotics, please consult a doctor immediately.

CHINESE

- 內含抗生素，請根據醫生或藥劑師的指示服用。
- 服用抗生素後，如果懷疑過敏反應(例如出疹或呼吸困難)，請即時求醫。



A4 Folder

Folder Design_03



內含抗生素

This contains antibiotics



- 請根據醫生的指示服用。
 Please follow your doctor's instructions in taking it.
- 請根據藥劑師的指示服用。
 Please follow your pharmacist's instructions in taking it.
- 服用抗生素後，如果懷疑過敏反應
 (例如出疹或呼吸困難)，請即時求醫。
 If suspected of allergic reaction
 (for example, skin rash or shortness of breath)
 after taking antibiotics, please consult a doctor immediately.

勤洗手 別做傳染病「幕後黑手」

GUARD AGAINST INFECTIONS
ALWAYS WASH YOUR HANDS



視液
LIQUID SOAP



酒精搓手液
ALCOHOL HAND RUB

衛生署二十四小時健康教育熱線
24-Hour Health Education Hotline of
the Department of Health 2833 0111
www.chp.gov.hk



潔手 Hand Hygiene

一個既簡單
且有效預防感染的方法
An easy and
effective way to
prevent infection



衛生署
Department of Health



健康在你手
Wash hands for
better health

何時應洗手

When to Wash Our Hands

HP 衛生防護中心
Center for Health Protection



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Department of Health



健康在你手
Wash hands for
better health

正確洗手五部曲

5 Steps For Proper Hand Washing

HP 衛生防護中心
Center for Health Protection



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World Health Day

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World Health Day – 7 April 2011

Antimicrobial resistance: no action today, no cure tomorrow

**COMBAT
DRUG RESISTANCE**

**No action today,
no cure tomorrow**



WHO

Antimicrobial resistance is not a new problem but one that is becoming more dangerous; urgent and consolidated efforts are needed to avoid regressing to the pre-antibiotic era.

On World Health Day 2011, WHO will introduce a six-point policy package to combat the spread of antimicrobial resistance.

World Health Day in the regions

- [WHO Region of the Americas](#)
- [WHO South-East Asia Region](#)
- [European Region](#)

Articles on antimicrobial resistance

[Mobilizing political will to contain antimicrobial resistance](#)
23 February 2011

[Race against time to develop new antibiotics](#)
24 January 2011

[Are antibiotics still "automatic" in France?](#)
28 December 2010

[Containing antimicrobial resistance: a renewed effort](#)
26 November 2010

<http://www.who.int/world-health-day/2011/en/index.html>

Antimicrobial resistance and its global spread

We live in an era in which we depend on antibiotics, and other antimicrobial medicines to treat conditions that decades ago, or even a few years ago in the case of HIV/AIDS,

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Drug resistance

<http://www.who.int/drugresistance/en/>

[Antimicrobial resistance](#)

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Antimicrobial Resistance



Antimicrobial agents are considered "miracle drugs" that are our leading weapons in the treatment of infectious diseases. Antimicrobial resistance is the ability of certain microorganisms to withstand attack by antimicrobials, and the uncontrolled rise in resistant pathogens threatens lives and wastes limited healthcare resources.

Microbes and Antimicrobial Agents

Antimicrobial agents are medicines used to treat infections caused by bacteria, fungi, parasites, and viruses. The discovery of antimicrobials is one of the most important advances in health in human history - decreasing suffering from disease and saving lives.

– [Discovery and development](#)



The rise in resistant microorganisms

HIGHLIGHTS

[WHO Global Strategy for Containment of Antimicrobial Resistance](#)



[Full text](#)

[Manual for the laboratory identification and antimicrobial susceptibility testing of bacterial pathogens of public health concern in the developing world](#)





SEARCH

A-Z Index [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) <#>

Get Smart: Know When Antibiotics Work

<http://www.cdc.gov/getsmart/index.html>

Antibiotics cure bacterial infections, not viral infections such as:

- Colds or flu;
- Most coughs and bronchitis;
- Sore throats not caused by strep; or
- Runny noses.

[Learn more about antibiotic use »](#)

[View past topics](#)


Take the Quiz!
Test your Knowledge on Antibiotic Use **GO»**

- Multimedia
- Antibiotics Quiz >>
- Pharmacists

Text size: [S](#) [M](#) [L](#) [XL](#)[Email page](#)[Print page](#)[Bookmark and share](#)

Appropriate Antibiotic Use



Antibiotics Aren't Always the Answer

Upper respiratory infections: sinus infection, sore throat, ear infection, bronchitis, and colds...



Antibiotic Resistance

FAQs, definitions, bacteria versus viruses...



Symptom Relief

Learn more about how to feel better when you don't need antibiotics...



Fast Facts

About antibiotic resistance and appropriate antibiotic use...

Campaign Materials

[Print Materials](#)[Treatment Guidelines for Upper Respiratory Tract](#)

Info for Specific Groups

For Everyone

Information sheets, brochures, FAQs, posters, fact sheets

Healthcare Professionals

Tools, CEs, and other resources for clinicians and pharmacists

Program Planners

Program planning, evaluation, and surveillance tools

Partners

Information for current and future partners of the Get Smart campaign

Media

Virtual press kit, PSAs, information on



Running Time: 3:45 mins

Date Released: 11/8/2010

CDC Commentary: Don't Give In and Give Those Antibiotics!

Tips on how to communicate with patients about appropriate antibiotic use for upper respiratory infections.

Communication Strategies

1. Provide a specific diagnosis to help patients feel validated, e.g. say “viral bronchitis”
2. Recommend symptomatic relief. Patients may not realize that effective symptomatic therapies are available.
3. Share normal findings as you go through your examination, e.g. let patients know that their lungs sound clear
4. Discuss potential side effects of antibiotic use, including adverse events and resistance
5. Explain to the patient or parent what to expect over the next few days.



EUROPEAN ANTIBIOTIC AWARENESS DAY



A European Health Initiative



English



Home

About the day

Toolkits

Country activities

Media Contact

News release

<http://ecdc.europa.eu/en/EAAD/Pages/Home.aspx/>

European Antibiotic Awareness Day is marked annually on **18 November**.
In **2010** the focus of the day is to promote prudent antibiotic use in hospitals.



What is the problem?

Antibiotic-resistant bacteria have become an everyday occurrence and problem in hospitals across Europe.



Why promote prudent use of antibiotics?

Prudent use of antibiotics can prevent the emergence and selection of antibiotic-resistant bacteria.



News release [EN]

COUNTRY ACTIVITIES



View national web pages and campaign materials

VIDEO



Discover all the videos

General
Public

Primary care
prescribers

Hospital
prescribers



“Cold, flu? Take care, not antibiotics,”



“Cold, flu?
Get well without antibiotics,”



Effect of using an interactive booklet about childhood respiratory tract infections in primary care consultations on reconsulting and antibiotic prescribing: a cluster randomised controlled trial

Nick A Francis, medical research council health services fellow,^{1,2} Christopher C Butler, professor of primary care medicine, head of department of primary care and public health,¹ Kerenza Hood, reader in statistics, director of south east Wales trials unit,^{1,2} Sharon Simpson, senior research fellow,^{1,2} Fiona Wood, lecturer,¹ Jacqueline Nuttall, senior trial manager^{1,2}

ABSTRACT

Objective To establish whether an interactive booklet on respiratory tract infections in children reduces reconsultation for the same illness episode, reduces antibiotic use, and affects future consulting intentions, while maintaining parental satisfaction with care.

Design Pragmatic cluster randomised controlled trial.

Setting 61 general practices in Wales and England.

Participants 558 children (6 months to 14 years) presenting to primary care with an acute respiratory tract infection (7 days or less). Children with suspected pneumonia, asthma or a serious concomitant illness, or needing immediate hospital admission were excluded. Three withdrew and 27 were lost to follow-up, leaving 528 (94.6%) with main outcome data.

Interventions Clinicians in the intervention group were trained in the use of an interactive booklet on respiratory tract infections and asked to use the booklet during consultations with recruited patients (and provide it as a take home resource). Clinicians in the control group conducted their consultations as usual.

Main outcome measures The proportion of children who attended a face-to-face consultation about the same illness during the two week follow-up period. Secondary outcomes included antibiotic prescribing, antibiotic consumption, future consulting intentions, and parental satisfaction, reassurance, and enablement.

Results Reconsultation occurred in 12.9% of children in the intervention group and 16.2% in the control group (absolute risk reduction 3.3%, 95% confidence interval -2.7% to 9.3%, $P=0.29$). Using multilevel modelling (at the practice and individual level) to account for clustering, **no significant difference in reconsulting was noted (odds ratio 0.75; 0.41 to 1.38)**. Antibiotics were prescribed at the index consultation to 19.5% of children in the intervention group and 40.8% of children in the control group (absolute risk reduction 21.3%, 95% confidence interval 13.7 to 28.9), $P<0.001$. A significant difference was still present after adjusting for clustering (odds ratio 0.29; 0.14 to 0.60). There was also a significant difference in the proportion of parents who said they would consult in the future if their child developed a similar illness (odds ratio 0.34; 0.20 to 0.57). Satisfaction, reassurance, and parental enablement scores were not significantly different between the two groups.

Conclusions Use of a booklet on respiratory tract infections in children within primary care consultations led to important reductions in antibiotic prescribing and reduced intention to consult without reducing satisfaction with care.



Local Survey

- ICB has commissioned a territory-wide telephone survey to Social Sciences Centre of HKU.
- Baseline survey was conducted in November 2010 with 1,569 respondents successfully interviewed and a response rate of 69.2%.
- A follow-up survey will be conducted in May 2011 to evaluate the community-wide publicity campaign held during March and April 2011.



Results of Baseline Survey

■ Knowledge on antibiotics

- ◆ The mean and median of knowledge score were both equal to eight, i.e. correctly answered 8 out of 12 knowledge questions.
- ◆ Significant proportion of respondents had incorrect faith in antibiotics and underestimated the risk of resistant microbes, believing that antibiotics could cure flu (34.3%) and viral infections (66.9%) and that resistant microbes did not require expensive or risky drugs to cure (54.3%).
- ◆ This misunderstanding was especially noted in respondents who were female, older, married, of lower education level or with lower household income.



Attitude towards antibiotics

- 61.0% and 53.2% of respondents considered antibiotics necessary if sore throat or sneeze/cough \geq one week.
- 41.9% of respondents considered antibiotics necessary if having fever for one to three days.
- 29.8% of respondents expected antibiotics within 7 days of illness, while over two-fifths (42.8%) expected antibiotics after $>$ 7 days of illness.
- About half (48.0%) and a third (32.4%) of respondents believed that new drugs and expensive drugs are always more efficacious.



Practice

- When taking antibiotics, more than two-fifths of respondents claimed that they would increase their personal hygiene practices.
- Among those respondents (31.7%) who had taken antibiotics in past 12 months, the minority purchased the antibiotics in a dispensary without doctor's prescription (5.7%), used leftovers from previous consultation (0.7%) or used leftovers from relatives or friends (0.3%).
- Common reasons cited for purchasing/taking the antibiotics without doctor's prescription: trusted their own experience more than a doctor's diagnosis (39.2%), similar symptoms before (29.1%), convenient (20.2%), cheaper (12.3%), no time to consult a doctor (5.4%) and recommended by relatives/friends (4.1%).



Practice (2)

- Majority of respondents stated that their doctors had reminded them about the dose and number of days (95.2%) and finish all the antibiotics prescribed (94.8%) during their latest consultation.
- However, only about a third of them (32.8%) remembered that their doctors had reminded them that improper usage of antibiotics would increase the chance of acquiring resistant bacteria.
- Only 9.9% sometimes and 2.7% never followed their doctors' instructions. Among them, over half (53.0%) stopped taking antibiotics when they thought they had recovered and around one-third (30.9%) sometimes forgot to take the antibiotics.
- Very few respondents had asked their doctor whether there were antibiotics in the medicine prescribed. However, a relatively higher proportion of respondents had asked the doctor about it for their children.
- Majority of respondents (98.5%) stated that they did not consult another doctor because their previous doctor had not prescribed antibiotics.



Promotion

- Just more than half of respondents (55.5%) had heard of resistant microbes or antimicrobial resistance.
- Among them, nearly two-thirds obtained the information through news at radio, TV or newspaper (63.3%), columns in newspapers or magazines (25.8%), radio or TV programmes (21.0%), websites (16.0%) and TV/radio API (10.6%).
- Respondents generally gave a higher rating for information obtained from health professionals compared to other channels.



Take Home Messages



For Patients in Primary Care

- Antibiotics do not work against cold or flu.
- Taking antibiotics when they are not required does not help you.
- Antibiotics should be used only when needed, because excessive use can make bacteria resistant.
- When you have a cold or flu, take a rest, drink plenty of fluids and use non-antibiotic treatment for symptomatic relief.
- If your symptoms do not improve or even become worse after 2-3 days, consult your doctor again.



Communicating with patients is key

- Studies show that patient satisfaction in primary care settings depends more on effective communication than on receiving an antibiotic prescription.
- Professional medical advice impacts patients' perceptions and attitude towards their illness and perceived need for antibiotics, in particular when they are advised on what to expect in the course of illness, including the realistic recovery time and self-management strategies.



World Health Day 7 April 2011

Safe Use of Antibiotics Save Lives 善用抗生素 保護生命



Scientific Symposium on Antimicrobial Resistance

Programme Rundown

7 April 2011 (Thu)	
Scientific Symposium on Antimicrobial Resistance	
Lecture Theatre, G/F, Centre for Health Protection Building	
Time	Programme
9:15	Registration
9:30	Welcome Remarks by Dr WONG Tin Yau, Andrew
9:45	Strategies on Control of MDROs by Prof Herman Goossens
10:45	Break
11:00	Local Situation in Antimicrobial Resistance by Dr TSANG Ngai Chong, Dominic
11:20	The Four-Ten Antimicrobial Resistance Containment Strategy by Dr HO Pak Leung
11:40	Local Survey on Use of Antibiotics and Antimicrobial Awareness by Dr HO Mei Lin
12:10	Discussion & Closing Remarks by Dr CHOI Kin Wing



Thank you

