

## **Methicillin-resistant *Staphylococcus aureus* (MRSA) Resource Manual**

MRSA infection is caused by *Staphylococcus aureus* bacteria, often called “staph”. MRSA is a type of staph that has developed resistance to the antibiotic methicillin and other antibiotics that are commonly used to treat it.

Most serious MRSA infections occur in hospitals or other healthcare settings, such as nursing homes and dialysis centers. This type of MRSA is known as healthcare-associated MRSA, or HA-MRSA. Older adults and people with weakened immune systems are at most risk for HA-MRSA.

Another type of MRSA occurs among otherwise healthy people in the community outside the healthcare facility setting. This form, known as community-associated MRSA (or CA-MRSA), is most often responsible for skin and soft tissue infections such as abscesses, boils or other pus-filled lesions and a type of pneumonia, which can be serious. CA-MRSA has become more commonly reported in recent years, and outbreaks or clusters of cases have been described in schools, athletic teams, correction facilities, and occasionally the workplace. Factors that have been associated with the spread of CA-MRSA skin infections include: close skin-to-skin contact, openings in the skin such as cuts or abrasions, contact with contaminated items and surfaces, crowded living conditions, and poor hygiene.

Although staph and MRSA infections have been recognized for many years (*Staphylococcus aureus* became resistant to penicillin in the 1940s), recent media attention has raised public awareness, particularly regarding MRSA infections. However, using appropriate prevention measures and infection control guidelines at all times can reduce the spread of MRSA. The Indiana State Department of Health (ISDH) is pleased to offer the resources below to assist individuals and organizations in their efforts to prevent and control MRSA infections.

The MRSA Resource Manual which follows includes information from the ISDH, Centers for Disease Control and Prevention (CDC), Healthcare Infection Control Practices Advisory Committee (HICPAC), World Health Organization (WHO), Association for Professionals in Infection Control (APIC), Indiana Coalition for Antibiotic Resistance Education Strategies (ICARES), and other state health departments. These resources include links to a variety of information from fact sheets, brochures, posters, and other sources for the general public, schools, and other organizations/facilities and links to detailed medical guidelines for healthcare professionals. We hope this information will be helpful in reducing the risk of infection in the community and providing healthcare personnel with the most current information on MRSA.

This manual is divided into five major categories with subtopics under each. By clicking on a category or subtopic in the table of contents, you will be directed to the resources (links) available for that specific subject.

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<h2><b>General Information Concerning MRSA (Fact Sheets, Guides and Brochures)</b></h2>
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### ➤ **General Public Information**

- MRSA Quick Facts, ISDH  
<http://www.in.gov/isdh/22122.htm>
- MRSA Prevention Brochure, ISDH  
[http://www.in.gov/isdh/files/MRSA\\_Brochure.pdf](http://www.in.gov/isdh/files/MRSA_Brochure.pdf)
- National MRSA education Initiative: Preventing MRSA Skin Infections, CDC  
[http://www.cdc.gov/mrsa/mrsa\\_initiative/skin\\_infection/index.html](http://www.cdc.gov/mrsa/mrsa_initiative/skin_infection/index.html)
- CA-MRSA Overview, CDC  
[http://www.cdc.gov/ncidod/dhqp/ar\\_mrsa\\_ca.html](http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca.html)
- Prevention and Containment Guidance of Staphylococcal Infections in Communities, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/Prevention.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/Prevention.pdf)
- Questions & Answers: Staph/MRSA Skin Infections, Los Angeles Dept. of Public Health  
<http://lapublichealth.org/acd/docs/StaphBrochureENG.pdf>

- **MRSA in the Home**

- 10 Tips for Preventing the Spread of Infection Flyer, APIC  
[http://www.apic.org/AM/Template.cfm?Section=Education\\_Resources&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=91&ContentID=8738](http://www.apic.org/AM/Template.cfm?Section=Education_Resources&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=91&ContentID=8738)
- Taking Care of Wounds That Are Draining or Have Not Healed Fact Sheet, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/Taking\\_care\\_wounds.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/Taking_care_wounds.pdf)
- Care of Your Skin Infection Poster, ISDH  
[http://www.in.gov/isdh/files/MRSA\\_SkinInfectionPoster.pdf](http://www.in.gov/isdh/files/MRSA_SkinInfectionPoster.pdf)
- Learning About MRSA: A Guide for Patients, Minnesota Dept. of Health  
<http://www.health.state.mn.us/divs/idepc/diseases/mrsa/book.pdf>
- Living With MRSA booklet, Washington State Dept. of Health  
[http://here.doh.wa.gov/materials/living-with-mrsa/12\\_MRSAbook\\_E07H.pdf](http://here.doh.wa.gov/materials/living-with-mrsa/12_MRSAbook_E07H.pdf)

<b>MRSA Information for Healthcare Professionals</b>
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➤ **Healthcare Guidelines**

- Guide to the Elimination of MRSA Transmission in Hospital Settings, APIC  
[http://www.apic.org/AM/Template.cfm?Section=APIC\\_Elimination\\_Guides&Template=/CM/HTMLDisplay.cfm&ContentID=13194](http://www.apic.org/AM/Template.cfm?Section=APIC_Elimination_Guides&Template=/CM/HTMLDisplay.cfm&ContentID=13194)
- Guide to MRSA in Long-Term Care Settings, APIC  
[http://www.apic.org/AM/Template.cfm?Section=APIC\\_Elimination\\_Guides&Template=/CM/HTMLDisplay.cfm&ContentID=13194](http://www.apic.org/AM/Template.cfm?Section=APIC_Elimination_Guides&Template=/CM/HTMLDisplay.cfm&ContentID=13194)
- Management of Multidrug-Resistant Organisms in Healthcare Settings, 2006, CDC  
<http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf>
- Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, 2007, HICPAC  
<http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/Isolation2007.pdf>
- Guideline for the Prevention and Management of MRSA, VRE, and VISA/VRSA in Indiana Health Care, 2004, ISDH/APIC-IN  
<http://www.in.gov/isdh/23462.htm>
- Guideline for Hand Hygiene in Healthcare Settings, 2002, CDC  
[http://www.cdc.gov/ncidod/dhqp/gl\\_handhygiene.html](http://www.cdc.gov/ncidod/dhqp/gl_handhygiene.html)
- Guidelines on Hand Hygiene in Health Care, 2009, WHO  
[http://whqlibdoc.who.int/publications/2009/9789241597906\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf)

## ➤ Medical Providers

- Information for Clinicians, CDC  
[http://www.cdc.gov/ncidod/dhqp/ar\\_mrsa\\_ca\\_clinicians.html](http://www.cdc.gov/ncidod/dhqp/ar_mrsa_ca_clinicians.html)
- Management of Skin and Soft Tissue Infections flowchart, CDC  
[http://www.cdc.gov/ncidod/dhqp/pdf/ar/mrsaPosters/Flowchart\\_pstr.pdf](http://www.cdc.gov/ncidod/dhqp/pdf/ar/mrsaPosters/Flowchart_pstr.pdf)
- Information for Healthcare Providers, Massachusetts Office of Health and Human Services  
[http://www.mass.gov/?pageID=eohhs2terminal&L=7&L0=Home&L1=Provider&L2=Guidelines+and+Resources&L3=Guidelines+for+Clinical+Treatment&L4=Diseases+%26+Conditions&L5=Communicable+Diseases&L6=Antibiotic+Resistance+and+MRSA&sid=Eeohhs2&b=terminalcontent&f=dph\\_cdc\\_p\\_antibiotic\\_mrsa\\_healthcare&csid=Eeohhs2](http://www.mass.gov/?pageID=eohhs2terminal&L=7&L0=Home&L1=Provider&L2=Guidelines+and+Resources&L3=Guidelines+for+Clinical+Treatment&L4=Diseases+%26+Conditions&L5=Communicable+Diseases&L6=Antibiotic+Resistance+and+MRSA&sid=Eeohhs2&b=terminalcontent&f=dph_cdc_p_antibiotic_mrsa_healthcare&csid=Eeohhs2)
- Photographs of MRSA Infections, CDC  
[http://www.cdc.gov/mrsa/mrsa\\_initiative/skin\\_infection/mrsa\\_photos.html](http://www.cdc.gov/mrsa/mrsa_initiative/skin_infection/mrsa_photos.html)
- Photographs of MRSA Infections, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/picpage.asp](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/picpage.asp)

## ➤ Healthcare Settings (Facilities)

- Toolkit for Outpatient Clinics/Offices, Tacoma/Pierce County Health Dept.  
<http://www.tpchd.org/page.php?id=336>
- Invasive MRSA Fact Sheet, CDC  
[http://www.cdc.gov/ncidod/dhqp/ar\\_mrsa\\_Invasive\\_FS.html](http://www.cdc.gov/ncidod/dhqp/ar_mrsa_Invasive_FS.html)
- Healthcare-Associated MRSA overview, CDC  
[http://www.cdc.gov/ncidod/dhqp/ar\\_mrsa.html](http://www.cdc.gov/ncidod/dhqp/ar_mrsa.html)
- Multidrug Resistant Organisms in Non-Hospital Healthcare Settings Fact Sheet, CDC  
[http://www.cdc.gov/ncidod/dhqp/ar\\_multidrugFAQ.html](http://www.cdc.gov/ncidod/dhqp/ar_multidrugFAQ.html)

## **MRSA Information for Schools and Childcare Facilities**

## ➤ School Information

- Questions and Answers about MRSA in Schools, CDC  
<http://www.cdc.gov/Features/MRSAinSchools/>
- MRSA Guidelines for Indiana Schools, ISDH  
This ISDH document outlines guidance for Indiana schools.  
<http://www.in.gov/isdh/dataandstats/epidem/2004/sep/guidelines.pdf>
- Indiana School Health Manual One Page Fact Sheet- MRSA, ISDH  
<http://www.in.gov/isdh/24516.htm>

- A Parent's Guide to MRSA, California Dept. of Public Health  
<http://www.cdph.ca.gov/HealthInfo/discond/Documents/MRSAParentsGuide.pdf>
- Toolkit for Elementary Schools, Tacoma/Pierce County Health Dept.  
<http://www.tpchd.org/page.php?id=399>
- Toolkit for Middle & High Schools, Tacoma/Pierce County Health Dept.  
<http://www.tpchd.org/page.php?id=364>

#### ➤ **Childcare Information**

- Information on Staphylococcal Infections for Day Care Administrators and Care Givers, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/mrsa\\_daycareadmin.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/mrsa_daycareadmin.pdf)
- Information on Staphylococcal Infections in Day Care Facilities for the Parents, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/mrsaparents.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/mrsaparents.pdf)
- Toolkit for Childcare Programs, Tacoma/Pierce County Health Dept.  
<http://www.tpchd.org/page.php?id=344>

### MRSA Information for Athletes and Athletic Departments

#### ➤ **General Information for Athletes and Athletic Departments (Brochures, Fact sheets)**

- Information on Staphylococcal Infections in School Athletic Departments: Instructions for the Athlete, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/mrsa\\_athlete.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/mrsa_athlete.pdf)
- MRSA Information for Athletes booklet  
<http://www.cdph.ca.gov/HealthInfo/discond/Documents/CAMRSAForAthletes.pdf>
- Skin Infections in Athletes, Minnesota Dept. of Health  
<http://www.health.state.mn.us/divs/idepc/dtopics/athlete>
- Information on Staphylococcal Infections For School Athletic Departments, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/mrsaathleticdepartment.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/mrsaathleticdepartment.pdf)
- A Guide for Coaches: Preventing the Spread of Bacteria Among Your Athletes brochure, New York State Dept. of Health  
<http://www.health.state.ny.us/publications/signature/1496.pdf>

- Information about MRSA for School Athletic Professionals, Massachusetts Office of Health and Human Services  
[http://www.mass.gov/?pageID=eohhs2terminal&L=6&L0=Home&L1=Provider&L2=Guidelines+and+Resources&L3=Guidelines+for+Services+%26+Planning&L4=School+Health&L5=Antibiotic+Resistance+and+MRSA&sid=Eeohhs2&b=terminalcontent&f=dph\\_cdc\\_p\\_antibiotic\\_mrsa\\_school\\_athletics&csid=Eeohhs2](http://www.mass.gov/?pageID=eohhs2terminal&L=6&L0=Home&L1=Provider&L2=Guidelines+and+Resources&L3=Guidelines+for+Services+%26+Planning&L4=School+Health&L5=Antibiotic+Resistance+and+MRSA&sid=Eeohhs2&b=terminalcontent&f=dph_cdc_p_antibiotic_mrsa_school_athletics&csid=Eeohhs2)
- *Staphylococcus aureus* and the School Athletics Quick Facts, ISDH  
<http://www.in.gov/isdh/22432.htm>

#### ➤ Videos and Posters for the Athletic Setting

- Prevention of MRSA in Athletic Setting – Video, Mecklenburg County Health Dept.  
<http://www.charmeck.org/Departments/Health+Department/Top+News/MRSA.htm>
- A Good Offense is Still the Best Defense – Poster, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/educational/best\\_defense.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/educational/best_defense.pdf)

### Correctional Facilities

#### ➤ Correctional Facility - General Information

- Management of MRSA Infections, 2005, Federal Bureau of Prisons  
<http://www.bop.gov/news/PDFs/mrsa.pdf>
- MRSA prevention slide presentation for correctional facility employees, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/mrsa\\_protect.ppt#256,2,MRSA](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/mrsa_protect.ppt#256,2,MRSA)
- Prevention, Treatment, and Containment of MRSA in County Jails (slide presentation), Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/prevention\\_treatment.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/prevention_treatment.pdf)

#### ➤ Videos and Poster for Correctional Facilities

- MRSA Awareness - Video, 2007, Federal Bureau of Prisons  
<http://www.bop.gov/news/medresources.jsp>
- Unlock Your Skin's Health Poster, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/skinhealthplacard.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/skinhealthplacard.pdf)

## Related MRSA Topics

### ➤ Antibiotic Resistance

- Get Smart: Know When Antibiotics Work, CDC  
<http://www.cdc.gov/getsmart/>
- Campaign to Prevent Antimicrobial Resistance in Healthcare Settings, CDC  
<http://www.cdc.gov/drugresistance/healthcare/default.htm>
- Antibiotic Resistance in Indiana, ICARES, Marion Co. Health Dept.  
<http://www.icares.org/>
- Antibiotic Use and Antibiotic Resistance Quick Facts, ISDH  
<http://www.in.gov/isdh/21166.htm>
- Anti-B's Coloring Sheet, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/educational/antibio\\_edu\\_coloring\\_sheet.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/educational/antibio_edu_coloring_sheet.pdf)
- Hospital vs. Home Setting Precautions for Antibiotic Resistant Bacteria Fact Sheet, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/antibio\\_edu\\_home\\_hospital.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/antibio_edu_home_hospital.pdf)

### ➤ Hand Hygiene

- Handwashing Campaign, ISDH  
<http://www.in.gov/isdh/24036.htm>
- Handwashing Quick Facts, ISDH  
<http://www.in.gov/isdh/21926.htm>
- Hand Hygiene Patient Admission Video, CDC  
[http://www.cdc.gov/handhygiene/Patient\\_Admission\\_Video.html](http://www.cdc.gov/handhygiene/Patient_Admission_Video.html)
- Wash Your Hands poster, Texas State Dept. of Health Services  
[http://www.dshs.state.tx.us/idcu/health/antibiotic\\_resistance/mrsa/Handwashing\\_poster.pdf](http://www.dshs.state.tx.us/idcu/health/antibiotic_resistance/mrsa/Handwashing_poster.pdf)

### ➤ Men Who Have Sex With Men

- MSM fact sheet  
<http://www.cdph.ca.gov/HealthInfo/discond/Pages/MRSA.aspx>
- Clinical Update on MRSA in MSM  
[http://www.cdph.ca.gov/HealthInfo/discond/Documents/MRSA\\_MSM\\_Consumer.pdf](http://www.cdph.ca.gov/HealthInfo/discond/Documents/MRSA_MSM_Consumer.pdf)

➤ **Veterinarians**

- Facts for Veterinarians brochure, Ohio State University, College of Veterinary Medicine  
<http://www.odh.ohio.gov/ASSETS/4FF0B27FC779400284CB5EB6FFE09156/OSUMRS AVets.pdf>
- Facts for Pet Owners brochure, Ohio State University, College of Veterinary Medicine  
<http://www.odh.ohio.gov/ASSETS/9C5A177A034D47C3BBF7DA81732A0A9D/OSUMR SAPets.pdf>

➤ **Workplace Setting**

- MRSA and the Workplace fact sheet, National Institute for Occupational Safety and Health  
<http://www.cdc.gov/niosh/topics/mrsa/>

➤ **Translations**

- A Parent's Guide brochure in Arabic, Chinese, Farsi, German, Hebrew, Japanese, Khmer, Korean, Lao, Pilipino, Portuguese, Russian, Spanish and Vietnamese, California Dept. of Education  
<http://inet2.cde.ca.gov/cmd/translatedparentaldoc.aspx?docid=883-914>