



Appendix D. Table D.1. Microorganisms isolated from arthropods in health-care settings

ENVIRONMENTAL INFECTION CONTROL GUIDELINES
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Guidelines for Environmental Infection Control in Health-Care Facilities (2003)

WHAT TO KNOW

The format of this section was changed to improve readability and accessibility in February 2017. The content is unchanged.

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- Cockroaches
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- Mites, midges
- Mosquitoes

Cockroaches

Microorganism category	Microorganisms	References
Gram-negative bacteria	<i>Acinetobacter</i> spp.; <i>Citrobacter freundii</i> ; <i>Enterobacter</i> spp., <i>E. cloacae</i> ; <i>Escherichia coli</i> ; <i>Flavobacterium</i> spp.; <i>Klebsiella</i> spp.; <i>Proteus</i> spp.; <i>Pseudomonas</i> spp., <i>P. aeruginosa</i> , <i>P. fluorescens</i> , <i>P. putida</i> ; <i>Salmonella</i> spp.; <i>Serratia</i> spp., <i>S. marcescens</i> ; <i>Shigella boydii</i>	1048, 1051, 1056, 1058, 1059, 1062
Gram-positive bacteria	<i>Bacillus</i> spp.; <i>Enterococcus faecalis</i> ; <i>Micrococcus</i> spp.; <i>Staphylococcus aureus</i> , <i>S. epidermidis</i> ;	1056, 1058, 1059

Microorganism category	Microorganisms	References
	<i>Streptococcus</i> spp., <i>S. viridans</i>	
Acid-fast bacteria	<i>Mycobacterium tuberculosis</i>	1065
Fungi	<i>Aspergillus niger</i> , <i>Mucor</i> spp.; <i>Rhizopus</i> spp.	1052, 1059
Parasites	<i>Endolimax nana</i> ; <i>Entamoeba coli</i>	1059

Microorganisms isolated from cockroaches in healthcare settings.

Houseflies

Microorganism category	Microorganisms	References
Gram-negative bacteria	<i>Acinetobacter</i> spp.; <i>Campulobacter fetus</i> subsp. <i>Jejuni</i> ; <i>Chlamydia</i> spp.; <i>Citrobacter fruendii</i> ; <i>Enterobacter</i> spp.; <i>Escherichia coli</i> ; <i>Helicobacter pylori</i> ; <i>Klebsiella</i> spp.; <i>Proteus</i> spp.; <i>Pseudomonasaeruginosa</i> ; <i>Serratia marcescens</i> ; <i>Shigella</i> spp.	1047, 1048, 1050, 1053–1055, 1060
Gram-positive bacteria	<i>Bacillus</i> spp.; <i>Enterococcus faecalis</i> ; <i>Micrococcus</i> spp.; <i>Staphylococcus</i> spp. (<i>coagulase-negative</i>), <i>S. aureus</i> ; <i>Streptococcus</i> spp., <i>S. viridans</i>	1048, 1060
Fungi / yeasts	<i>Candida</i> spp.; <i>Geotrichum</i> spp.	1060
Parasites	<i>Endolimax nana</i> ; <i>Entamoeba coli</i>	1060
Viruses	Rotaviruses	1049

Microorganisms isolated from houseflies in healthcare settings.

Ants

Microorganism category	Microorganisms	References
Gram-negative bacteria	<i>Acinetobacter</i> spp.; <i>Escherichia coli</i> ; <i>Klebsiella</i> spp.; <i>Neisseria sicca</i> ; <i>Proteus</i> spp.; <i>Providencia</i> spp.; <i>Pseudomonas aeruginosa</i> , <i>P. fluorescens</i>	1057
Gram-positive bacteria	<i>Bacillus</i> spp., <i>B.cereus</i> , <i>B. pumilis</i> ; <i>Clostridium cochlearium</i> , <i>C. welchii</i> ; <i>Enterococcus faecalis</i> ; <i>Staphylococcus</i> spp. (coagulase-negative), <i>S. aureus</i> ; <i>Streptococcus pyrogenes</i>	1057

Microorganisms isolated from ants in healthcare settings.

Spiders

Microorganism category	Microorganisms	References
Gram-negative bacteria	<i>Acinetobacter</i> spp.; <i>Citrobacter freundii</i> ; <i>Enterobacteraerogenes</i> ; <i>Morganella morganii</i>	1048
Gram-positive bacteria	<i>Staphylococcus</i> spp. (coagulase-negative)	1048

Microorganisms isolated from spiders in healthcare settings.

Mites, midges

Microorganism category	Microorganisms	References
Gram-negative bacteria	<i>Acinetobacter</i> spp.; <i>Burkholderia cepacia</i> ; <i>Enterbacter agglomerans</i> , <i>E. aerogenes</i> ; <i>Hafnia alvei</i> ; <i>Pseudomonas aeruginosa</i>	1048
Gram-positive bacteria	<i>Staphylococcus</i> spp. (coagulase-negative)	1048

Microorganisms isolated from mites and midges in healthcare settings.

Mosquitoes

Microorganism category	Microorganisms	References
Gram-negative bacteria	<i>Acinetobacter calcoaceticus</i> ; <i>Enteobacter cloacae</i>	1048
Gram-positive bacteria	<i>Enterococcus</i> spp.; <i>Staphylococcus</i> spp. (coagulase-negative)	1048

Microorganisms isolated from mosquitoes in healthcare settings.

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Appendix E. Information Resources



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SOURCES

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[National Center for Emerging and Zoonotic Infectious Diseases \(NCEZID\)](#)

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