Unit I: Introduction to Infectious Diseases

Instructional Activities for Teens
Visual Aids

PKIDs’ Infectious Disease Workshop

Made possible by grants from the Northwest Health Foundation, the Children’s Vaccine Program at PATH and PKIDs.
PKIDs’ Infectious Disease Workshop

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Acknowledgements

Producing this workshop has been a dream of ours since PKIDs’ inception in 1996. It has been more than two years since we began work on this project, and many people helped us reach our goal. It’s not done, because it is by nature a living document that will evolve as science makes strides in the research of infectious diseases, but it’s a great beginning.

There are people who’ve helped us whose names are not on this printed list. That omission is not deliberate, but rather from our own clumsiness in losing important pieces of paper, and we apologize.

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Warning: This section contains certain disease-related images that may not be suitable for young children.

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This publication contains the opinions and ideas of its authors. It is intended to provide helpful and informative material on the subject matter covered. Any information obtained from this workshop is not to be construed as medical or legal advice. If the reader requires personal assistance or advice, a competent professional should be consulted.

The authors specifically disclaim any responsibility for any liability, loss, or risk, personal or otherwise, which is incurred as a consequence, directly or indirectly, of the use and application of any of the contents of this workshop.
Introduction

PKIDs (Parents of Kids with Infectious Diseases) is a national nonprofit agency whose mission is to educate the public about infectious diseases, the methods of prevention and transmission, and the latest advances in medicine; to eliminate the social stigma borne by the infected; and to assist the families of the children living with hepatitis, HIV/AIDS, or other chronic, viral infectious diseases with emotional, financial and informational support.

Remaining true to our mission, we have designed the Infectious Disease Workshop (IDW), an educational tool for people of all ages and with all levels of understanding about infectious diseases. In this workshop, you will learn about bacteria and viruses, how to prevent infections, and how to eliminate the social stigma that too often accompanies diseases such as HIV or hepatitis C.

We hope that both instructors and participants come away from this workshop feeling comfortable with their new level of education on infectious diseases.

The IDW is designed to “train-the-trainer,” providing instructors not only with background materials but also with age-appropriate activities for the participants. Instructors do not need to be professional educators to use these materials. They were designed with both educators and laypersons in mind.

The IDW is comprised of a master Instructor’s Background Text, which is divided into six units: Introduction to Infectious Diseases, Disease Prevention, Sports and Infectious Disease, Stigma and Infectious Disease, Civil Rights and Infectious Disease, and Bioterrorism and Infectious Disease.

For each unit, instructors will find fun and helpful activities for participants in five age groups: 2 to 6 years of age, 6 to 9 years of age, 9 to 12 years of age, 13 to 18 years of age and adults.

We welcome any questions, comments, or feedback you may have about the IDW or any other issue relating to infectious diseases in children.
Dear Parents,

Our class will soon be studying infectious diseases. We will learn about what germs are and ways we can keep from spreading germs. We will also learn that people who have infectious diseases don’t have to be treated differently or singled out just because they have a disease.

The workshop we will use has been created by PKIDs (Parents of Kids with Infectious Diseases), a national nonprofit organization dedicated to supporting families touched by infectious diseases.

Your child may have questions about germs or may come home with new ideas about preventing the spread of germs. Here are a few ways you can stay informed:

**View PKIDs’ website.** PKIDs’ website can be found at www.pkids.org. You may also request information by calling PKIDs at 1-877-55-PKIDS.

**View the instructor’s background text for the Infectious Disease Workshop (IDW).** The primary purpose of this text is to provide teachers with background information on infectious diseases. It is a good text for anyone seeking general information on infectious diseases. The text provides information about specific diseases, methods of disease prevention, and civil rights for those affected by infectious disease. Visit www.pkids.org for a link to the IDW background texts in PDF format.

**View descriptions of the activities we will be doing in class.** Visit www.pkids.org for a link to the activities and handouts in PDF format.

The world becomes smaller every day and germs from near and far continue to threaten our health. It is extremely important to educate our young people, equipping them with prevention methods to protect their health and stop the spread of disease.

As always, please feel free to contact me with any questions!

Sincerely,
Influenza
causes the flu

Influenza A virus.
Influenza

Image of germs (e.g., influenza) spreading by cough/sneeze.
Bordetella pertussis
causes pertussis or “whooping cough”

B. pertussis bacterium.
Rubella
causes rubella or “German Measles” and congenital rubella syndrome

Rubella virus.
Rubella

Cataracts caused by rubella acquired prenatally.

Infant born with rubella.
Haemophilus influenzae type b (Hib) causes a common form of bacterial meningitis.

Hib bacterium.

Child with Hib infection in the tissue of the jaw and cheek.
Corynebacterium diphtheriae causes diphtheria

C. diphtheriae bacteria.
Corynebacterium diphtheriae

Diphtheria bacterium adhering to throat cell.

A thick, gray coating may form on the back of the throat.
Measles

Measles virus.

Child with a measles rash.
Measles

New measles viruses budding off an infected host cell.
Tetanus

This baby’s muscles are so rigid they cannot be moved.

This baby cannot open his mouth to eat.
Varicella
causes chickenpox

Varicella-zoster virus particles.
Varicella

Classic case of chickenpox infecting a newborn.

Chickenpox rash on an older child.
Mumps

Mumps virus.

Genetic material of the mumps virus.
Mumps

Swelling caused by mumps.
Neisseria meningitidis causes meningococcal meningitis

Meningococcal bacteria.
Poliovirus
causes polio

Structural damage
caused by polio.

Poliovirus.
Hepatitis A Virus (HAV) causes acute inflammation of the liver

Hepatitis A viruses.

Jaundice (yellowing) of eyes and skin.
Hepatitis B Virus (HBV)
causes acute and chronic inflammation of the liver

Hepatitis B viruses and surplus protein particles.

Swollen stomach area caused by HBV-induced liver cancer.
Hepatitis C Virus (HCV) causes liver inflammation, usually chronic.

Liver cell.

Healthy liver cells.

Damaged liver cells with tumors.
Mycobacterium tuberculosis causes tuberculosis (TB)

Antibiotic-resistant strain of the bacteria *M. tuberculosis*. 
Cytomegalovirus (CMV)

typically causes asymptomatic chronic infection; can cause central nervous system damage to an unborn child

Human cells infected with cytomegalovirus.
Herpes Simplex Virus (HSV) causes oral (type 1) or genital (type 2) sores

Herpes simplex virus particle.
Human Immunodeficiency Virus (HIV) causes AIDS

HIV infection in lymph tissue.
HIV

T-lymphocyte blood cell (green) infected with HIV (red).
Smallpox
causes high fever and pustules

Smallpox virus.

Smallpox pustules.
West Nile Virus (WNV) known to cause encephalitis in humans

West Nile viruses.
Bacillus anthracis causes anthrax

B. anthracis in the vegetative and spore-forming stage.