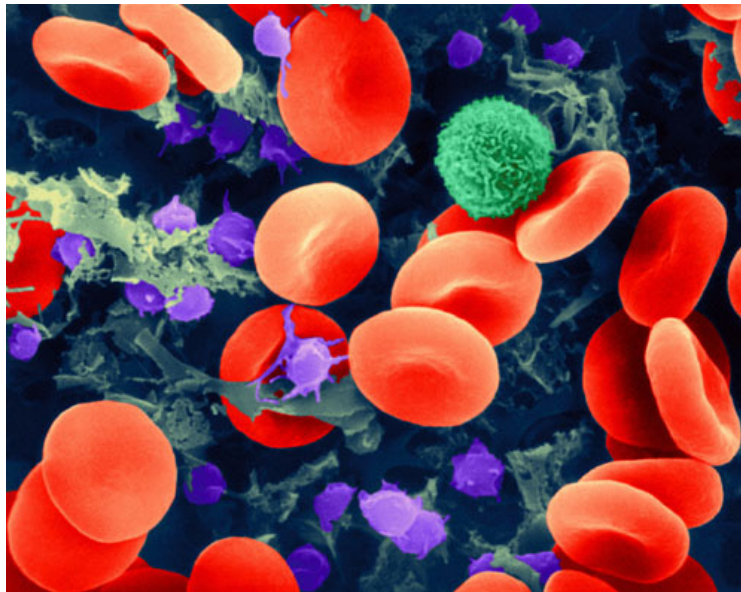


Unit 2: Disease Prevention

Instructional Activities for Ages 6-9



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

©PKIDs 2004

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.

Without the funding and support of the Northwest Health Foundation and the Children's Vaccine Program at PATH (Program for Appropriate Technology in Health), this would have been an impossible task. Dr. Katherine Vaughn, PKIDs' Medical Director and Dr. Karen Steingart, scientific advisor to PKIDs, provided excellent guidance through their editorial oversight and knowledgeable contributions to the Infectious Disease Workshop.

On PKIDs' staff are three individuals without whom this publication would never have been finished—Franji Mayes, Mylei Basich and Christine Kukka, all of whom gave their very best to ensure this workshop is accurate and user-friendly.

We are indebted to the following individuals who cheerfully gave us hours of their time and access to their resources: the American Society for Microbiology; Kathy A. Bobula, Ph.D., Coordinator, Early Childhood Education, Clark College, Vancouver, Wash.; Claudia Bratt, elementary school teacher, Truman Elementary, Vancouver, Wash.; Sue Campbell, Early Childhood Educator, Kindercare; many wonderful and helpful people at the Centers for Disease Control and Prevention, Atlanta, Georgia; Rachel Coyle, Case Aide and Residential Care Staff Lead, Jonathan's Place; Tammy Dunn, Early Childhood Director, Portland Christian Schools, Portland, Oregon; Bruce Gellin, M.D., Director of the National Vaccine Program Office in the Office of the Assistant Secretary for Health, Department of Health and Human Services; Shannon Harrison, M.D., Internal Medicine and Infectious Diseases, Teton Hospital, Jackson, Wyoming; the Immunization Action Coalition; Brad Jensen, M.D., Southwest Washington Medical Center Pathology Department; Edgar Marcuse, M.D., Professor of Pediatrics, University of Washington and Director of Medical Services, Seattle Children's Hospital and Regional Medical Center; Zack Mittge, law student, University of Oregon; the National Network for Immunization Information; Paul Offit, M.D., Chief, Section of Infectious Diseases and the Henle Professor of Immunologic and Infectious Diseases at The Children's Hospital of Philadelphia; Carol Porter, Red Cross health room volunteer, Garland Independent School District, Garland, Texas; Sarah Theberge, Curriculum Instructor, Early Childhood Education, Clark College, Vancouver, Wash.; James Whorton, Ph.D., Professor, Department of Medical History and Ethics, University of Washington School of Medicine.

We thank the following for providing nonprofit rates for their microscopic images: Dennis Kunkel Microscopy, Inc., and Science Photo Library/Photo Researchers, Inc.
(Cover photo: Dennis Kunkel Microscopy, Inc./www.denniskunkel.com.)

Additional funding for this project provided by PKIDs (Parents of Kids with Infectious Diseases).

Table of Contents

Introduction	5
Letter from Teachers to Parents.....	6
1. Handwashing Experiment... ..	7
Handout	9
2. What Grown-Ups Do When Someone Bleeds: Pretend Blood Exercise	10
3. Germ Busters	12
Badges	13
Certificate	14
Bibliography	15
Additional Activities and Resources	18

To navigate this document, use the bookmarks to the left or select an item on this page.

[Click here to go back to the PKIDs' IDW website.](#)

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.

PKIDs
P.O. Box 5666
Vancouver, WA 98668
VOICE: (360) 695-0293 or toll-free 877-557-5437
FAX: (360) 695-6941
EMAIL: pkids@pkids.org
WEBSITE: www.pkids.org

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,

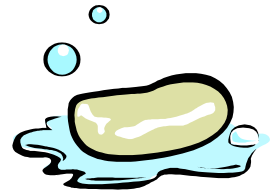
HANDWASHING EXPERIMENT

LEVEL
Ages 6-9

OBJECTIVE
Students will discriminate between effective and ineffective handwashing techniques.

- MATERIALS**
- Cooking oil.
 - Cinnamon or nutmeg.
 - Soap, sink with cold and warm water, disposable towels—preferably at a location where there are a few sinks together.
 - Stopwatch (or watch with seconds indicator).
 - Handwashing Experiment handout (1 per student).

PREP
Locate sink area to be used for experiment.



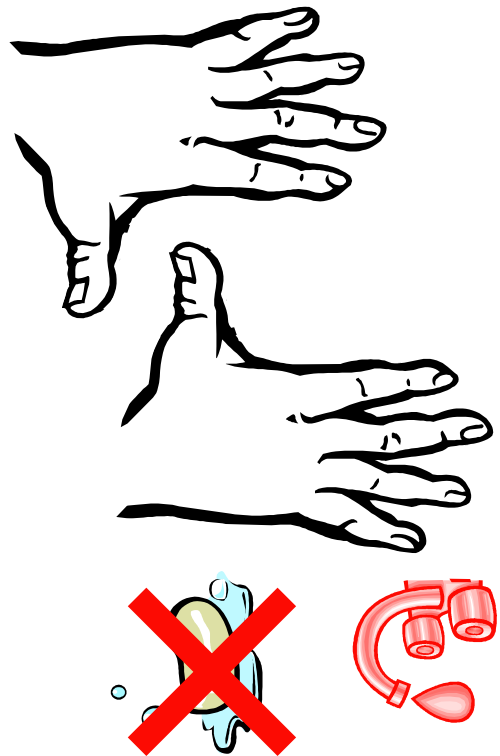
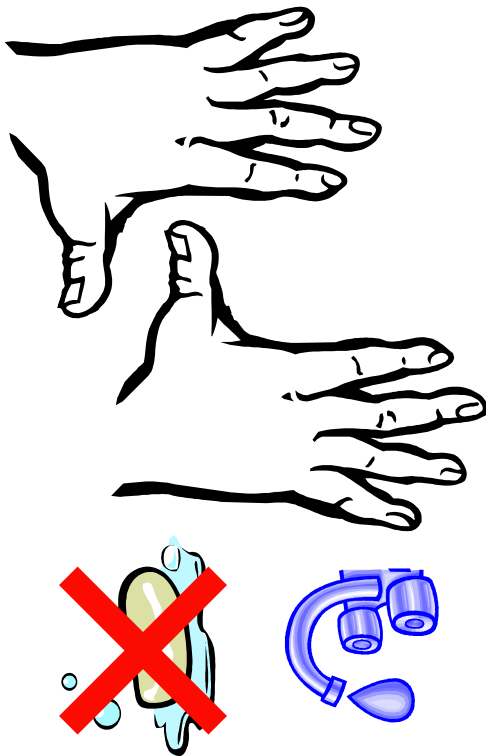
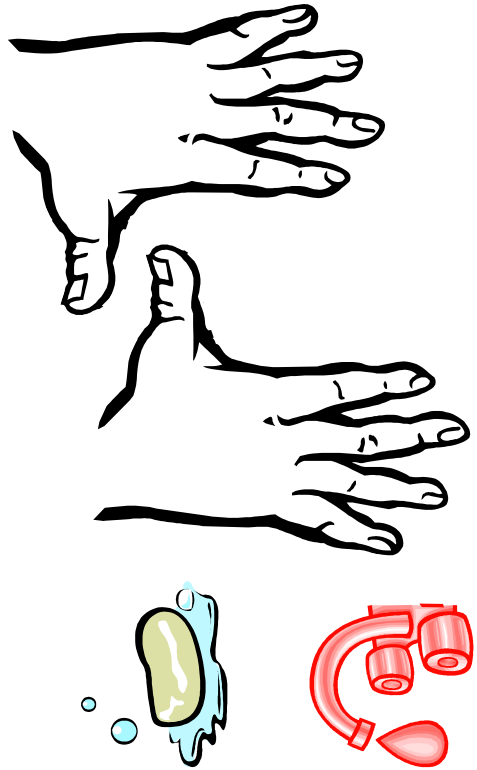
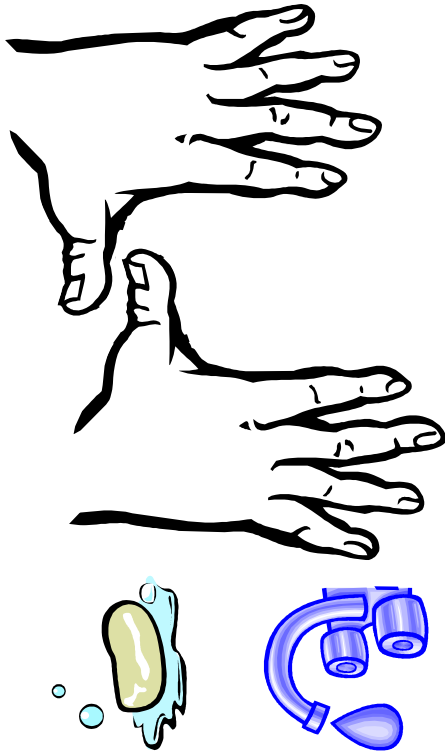
INSTRUCTIONAL COMPONENTS

1. Distribute handout (face down, if desired).
2. Explain to the children that they will be observing how clean hands get when they are washed in certain ways.
3. (Have students turn over the handout.) Have students write their name on the handout. Ask them to look at the hands and explain that they will need a pencil to draw on the hands what they will be seeing.
4. Have students notice that the handout is divided into 4 parts. Ask them to look at the pictures of soap and water in each part. Point and explain:
 - Top Left—hands washed with no soap in cold water
 - Top Right—hands washed with soap in cold water
 - Bottom Left—hands washed with no soap in warm water
 - Bottom Right—hands washed with soap in warm water
5. To conduct the experiment, you will need 4 volunteers.
 - The first volunteer “dirties” their hands by covering them with oil and then rubbing in the cinnamon/nutmeg.
 - The stopwatch operator (teacher) indicates when to start and the volunteer begins washing his/her hands for 15 seconds.
 - The volunteer walks around the class; the class observes and notes the cleanliness factor of the volunteer’s hands using the handout provided. (They should draw what they see—lots of specks, some specks, no specks.)
 - The volunteer should not forget to make his/her own observations.
 - Repeat process for other three handwashing methods.

ASSESSMENT

- Students should observe their data and reach conclusions about which handwashing methods are the most effective. Have them share their conclusions with the class.
- Students (with teacher assistance) can compare their findings with established health standards for handwashing and discuss differences or similarities.

NAME: _____



WHAT GROWN-UPS DO WHEN SOMEONE BLEEDS

Pretend Blood Exercise

LEVEL

Age 6-9

OBJECTIVE

- Students will apply their knowledge of Standard Precautions to a pretend blood scenario.
- Students will demonstrate this knowledge by acting out age-appropriate behaviors as applicable to a blood spill scenario.

MATERIALS

- Pretend blood—ketchup; red construction paper “blob” (fake blood to tape to a person).
- Paper towels, tissues.
- Bath or hand towel or large amounts of gauze.
- Disinfectant (bleach) solution in spray bottle.
- Latex or other nonpermeable gloves, plastic sandwich bags (make-shift “gloves”).
- Larger plastic bag (for disposal).

PREP

None

INSTRUCTIONAL COMPONENTS

1. Explain that it is very important that we never touch someone else’s blood. To help students understand, first explain that there are germs in blood and other body fluids, then ask them:
 - Would we want to touch someone else’s poop or snot? (Most will say “NO!”)
 - “Why is that? Do you remember what we learned about germs?”
2. Demonstrate how you, an adult, would clean up blood on a countertop.
 - Squeeze some ketchup onto a countertop.
 - Put on gloves and/or a plastic sandwich bag.
 - Use the paper, bath or hand towels and/or tissues to clean up the “blood.”
 - Throw the dirty paper towels/tissues into the plastic garbage bag and tie it closed, or put the washable towels into a bag for the laundry.
 - Spray the surface with the disinfectant and use clean paper towels/tissues to wipe it down then put the disposable towels into a plastic garbage bag and tie it closed..
3. Demonstrate how you, an adult would assist someone who is bleeding.
 - Tape the paper “blood” cutout to a volunteer. Have the volunteer ask you, the adult, for help.
 - Put on gloves and/or plastic sandwich baggies
 - Hold the towel(s) against the blood as a barrier.
 - Control the bleeding, then bandage.
 - After removing the gloves and disposing of them in a plastic bag, wash your hands.

4. Emphasize that these are things *adults* would do to help a person who is bleeding, which is why students should always:
- Get an adult!
 - Give towel(s) to a bleeding person, but avoid touching the blood themselves.
 - Wash hands afterwards.
 - Keep bandages on all wounds.

ASSESSMENT

Reenact the above scenarios having students act out:

- Getting an adult to help.
- Giving the injured person towel(s) to use.
- NOT touching blood.

GERM BUSTERS

LEVEL

Age 6-9

OBJECTIVE

Students will demonstrate effective disease prevention skills:

- Handwashing.
- Using tissue to cough, sneeze, blow nose.
- Getting help at the sight of blood; not touching blood.

MATERIALS

- Germ Buster badges or certificates (included)—1 per student.
- Fake blood on a victim—from a cut or a nose—could be ketchup on a paper cut-out, or a drawing/photo with blood colored in.
- Tissues and garbage can.
- Sink with soap, paper towels and garbage can.

PREP

Set up stations:

1. Coughing/Sneezing/Nose blowing Station.
2. Handwashing Station.
3. Fake Blood Station.

INSTRUCTIONAL COMPONENTS/ASSESSMENT

1. Announce to the students that they are now eligible to become an official Germ Buster.
2. Have students go through each station. They can do this individually, or maybe in pairs. It might work well to have a classroom helper do the “testing” if the teacher is not able to devote attention to it.
3. Coughing Station: “You need to sneeze or cough. What do you do?” Students should cover mouth and nose, pretend cough/sneeze, and throw tissue away.
4. Handwashing Station: “You have germy hands. What do you do?” Students should wash for 15 seconds with soap and warm water and dry hands appropriately.
5. Fake Blood Station: “You see this person is bleeding. What do you do?” Students should not touch the blood and should get an adult’s help.
6. At the end, everyone is appointed a “Germ Buster” and receives a badge or certificate! Students can write their names on the badges/certificates and color them.

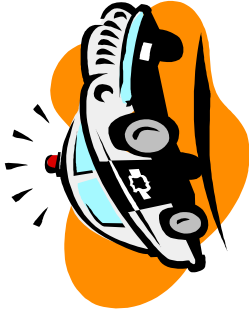


This certificate acknowledges that

Name

**has completed the PKIDS' Infectious Disease Workshop
training in prevention of infectious diseases
and is hereby appointed an officer in the**

GERM



**BUSTERS
SQUAD**



Date

Squad Leader

Bibliography

Alliance of Professional Tattooists
www.safe-tattoos.com

Altman, Lawrence. “*Many gay men in U.S. unaware they have H.I.V., study finds.*” The New York Times, July 8, 2002.

American Academy of Dermatology
www.aad.org

American Academy of Pediatrics: Childhood Immunization Support Program
www.cispimmunize.org

American Medical Association
www.ama-assn.org

American Society for Microbiology: Why Is Washing Hands So Darn Important?
www.asmusa.org, www.washup.org

Centers for Disease Control and Prevention
www.cdc.gov

Children’s Hospital of Philadelphia: Vaccine Education Center
vaccine.chop.edu

DiscoverySchool.com: All About Vaccines
school.discovery.com/lessonplans/programs/vaccinations/index.html

Harrison, Shannon, M.D., Internal Medicine and Infectious Diseases, Teton Hospital, Jackson, WY

Hetzner, Amy. “*Dirty hands, messy problem: Schools get re-educated on need for cleanliness.*” Milwaukee Journal Sentinel, June 3, 2001.
www.jsonline.com

Humiston, Sharon, and Cynthia Good. *Vaccinating Your Child: Questions and Answers for the Concerned Parent.* Atlanta: Peachtree Publishers Ltd., 2000.

Immunization Action Coalition
www.immunize.org

Johns Hopkins: Healthcare Epidemiology and Infection Control
www.hopkins-heic.org

Journal of the American Medical Association: *Recommendations for Prevention and Control of Hepatitis C Virus (HCV) Infection and HCV-Related Chronic Disease*
www.ama-assn.org

National Association of Children's Hospitals
www.childrenshospitals.net

National Centers for Disease Control and Prevention, "*Questions and Answers about Male Latex Condoms to Prevent Sexual Transmission of HIV*," CDC Update (CDC: Atlanta, GA: April 1997).

National Childcare Information Center
nccic.org

National Library of Medicine
www.nlm.nih.gov

National Network for Immunization Information
www.immunizationinfo.org

Offit, Paul, and Louis Bell. *Vaccines: What Every Parent Should Know*. New York: IDG Books, 1999.

Parents of Kids with Infectious Diseases (PKIDs): *Pediatric Hepatitis Report*
www.pkids.org

Planned Parenthood Federation
www.plannedparenthood.org

St. Edwards University: *AIDS 101*
www.stedwards.edu

Sandler, G. "*Density and turnover rate important risk factors in day care infections.*" *Infectious Diseases in Children*. July 1996.
idinchildren.com

Sexuality Information and Education Council of America. *SIECUS Report*. Volume 27, Number 1, October/November 1998.
www.siecus.org

Venes, Donald, M.D., M.S.J. *Taber's Cyclopedic Medical Dictionary*. 19th ed. Philadelphia: F.A. Davis Company, 2001.

World Health Organization
www.who.int

Additional Activities and Resources for Teachers, Students and Parents

Band-aids and Blackboards: When Chronic Illness or Some Other Medical Problem Goes to School. An interactive website especially for kids with illnesses. Also contains links to other kid-oriented health/science activity websites.

www.faculty.fairfield.edu/fleitas/contents.html

Big Chalk on the Web and Homework Central

Lesson plans and homework resources for students and teachers in elementary, middle and high school.

www.bigchalk.com

Discoveryschool.com: Lesson plans for teaching AIDS issues, the health risks of body art, and other health-related concepts.

<http://school.discovery.com>

The National PTA: Resources especially for parents on a variety of issues, including infectious diseases in schools.

www.pta.org

The Handwasher's Brigade Presents: How To Wash Your Hands! Videotape. PKIDs, 1999.

www.pkids.org