Pediatric Environmental Health
Toolkit app

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Health Care Providers

Survey of Pediatric Oncology Providers
Zachek et al. J Ped Hematology Oncology 2015
Pediatric Environmental Health Toolkit

An American Academy of Pediatrics-endorsed clinical tool, developed by San Francisco and Boston PSR Chapters, UCSF PEHSU, and a team of pediatricians
Pediatric Environmental Health Toolkit
Online CE Course

Rx for Prevention:

- Have a Healthy Home. Keep your house well-ventilated, free of dust and tobacco smoke. Choose safer alternatives for cleaning and home renovation, such as water-based glues or paints, and chlorine-based products. Avoid spraying pesticides in the home, garden, and on pets. Get rid of standing water that helps breed insects. Repair drips and holes. Clean up food crumbs and spills and put away all food that will attract unwanted insects or animals.

- Don't Get Burned. Protect your child from excessive sun exposure with hats and cover-ups. Use sunscreens SPF 15 or higher once your child is 6 months old. Do NOT use sunscreens combined with the pesticide DEET or other insect repellent. Watch for the "UV Index" that provides guidance on sun exposure, or local weather forecasts in your area. Children can get burned even on cloudy winter days.

Find out more: www.atsdr.cdc.gov/emes/subtopic/pediatrics.html
• Format as web app
• Create new material/revise
  – Programming at UCSF, Reggie Sparks
• Review
  – PEHSU physicians nationwide / PEHSU administration
  – ATSDR
  – AAP Council on Environmental Health, PSR
• Continued endorsement AAP
Healthy Environment

Healthy Child

peht.ucsf.edu

Environmental Hazards

Anticipatory Guidance

Key Concepts

Endorsed by:

American Academy of Pediatrics

PEHSU

Pediatric Environmental Health Specialty Units
Reiko and Toshio are a Japanese-American couple in their early 30's who met in college and married five years ago. They have been trying to have a child for about a year and feel frustrated that Reiko is not yet pregnant. They are not alone – infertility is not uncommon.
At her annual exam, Reiko speaks with her gynecologist, Dr. Lopez, about the couple’s frustration at not being able to conceive. Reiko says that they are now more than ready to start a family.

At an earlier appointment Dr. Lopez had explained that Reiko may have some degree of endometriosis due to her history of unusually painful menses. This could play a role in her difficulty conceiving. She tells Reiko that about 10% of women of reproductive age have endometriosis. She also tells her that 30-50% of women with endometriosis are infertile and that about the same percentage who are infertile have endometriosis. Reiko is surprised at these percentages. Dr. Lopez tells Reiko she will discuss treatment options with her.

Watch: Endometriosis and the environment
Linda C. Guidice, MD, PhD, MSc, Distinguished Professor and Chair
The Robert B. Jaffe, MD
Endowed Professor in the Reproductive Sciences,
University of California San Francisco.
NORMAL REPRODUCTIVE
SYSTEM DEVELOPMENT

In the female embryo, Mullerian ducts arise beside the Wolffian ducts and develop into the fallopian tubes, uterus, cervix and upper vagina, and the Wolffian ducts atrophy.

The external genitalia are also identical (or “ambiguous”) until six weeks, consisting of a genital tubercle, genital swelling, and cloaca. In males, when the testes begin to secrete testosterone, the formation of male external genitalia is signaled. In females, the lack of hormone secretion results in female genitalia.

During embryonic development, not only do the male and female reproductive structures differentiate, there is sexual differentiation of the developing brain. The hormones produced by the developing male testis impact the fetal brain in sex-specific ways.

Watch: Environmental influences on the developing follicles
Ulrike Luderer, MD, PhD, MPH discusses environmental influences on the developing ovaries.
Ulrike Luderer, MD, PhD, MPH, Consultant, Western States PEHSU, Professor, School of Medicine, Director, Environmental Health Science Graduate Program, University of California, Irvine
INFERTILITY  Reiko & Toshio’s Story

Dr. Lopez includes information on the influence of toxic chemicals such as lead and the solvents in paints and other materials. She again mentions the important nutrition issues they had discussed earlier.

Watch: Chemicals and infertility
Tracey J. Woodruff, PhD, MPH
Director, Program on Reproductive Health and the Environment; Professor in the Department of Obstetrics, Gynecology, and Reproductive Sciences at the University of California, San Francisco

Links:
- TEDx The Endocrine Disruption Exchange
- Generations at Risk Reproduction Health and the Environment
- CDC’s Lead and Pregnancy

KEY CONCEPT:
Multiple environmental factors can influence reproductive health.

Environmental factors, alone or in combination with other variables, can have adverse impacts on reproductive health, increasing the risk of infertility, miscarriage, abnormal fetal growth, fetal death, preterm birth, birth defects or other developmental abnormalities. In many cases, a specific cause of an adverse outcome cannot be identified. With the exception of birth defect registries in some states, lack of comprehensive data collection pertaining to most abnormal outcomes makes epidemiologic studies intended to identify causal factors difficult to conduct.

TOXICANTS
Including: pesticides, endocrine disruptors, metals, air pollution, solvents

RADIATION

STRESS

INFECTIONOUS AGENTS such as:
Viruses: CMV, varicella, herpes
Bacteria: syphilis, listeria
Parasites: toxoplasmosis, Zika, rubella

CLIMATE CHANGE

NUTRITION