

# DEHP

What is it?

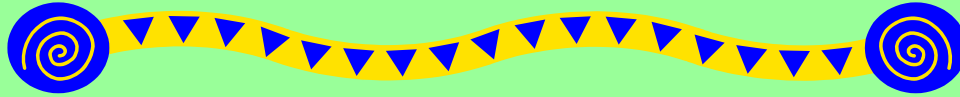
Why is it Bad?

Lisa Hartmayer, RN

# DEHP

- Di(2-ethylhexyl) phthalate is a Plasticizers of PVC (polyvinyl chloride).
- Plasticizers give PVC flexibility, strength and bondability.
- DEHP is currently the only phthalate used in PVC medical devices.
- By weight PVC based medical devices contain 20-40% DEHP.

# How are patients exposed to DEHP?



- DEHP does not chemically bind to PVC.
- DEHP may leach from plasticized PVC when a medical device comes into contact with fluids, lipids and heat.
  - The rate of leaching depends on storage conditions (temperature, contact, time agitation)

# Exposure



- The most highly DEHP exposed patients are neonates in the neonatal intensive care unit.
- Based on weight
- Receive medical procedures that require hours or days
  - Hemodialysis, blood transfusions, extracorporeal membrane oxygenation, endotracheal tubes, TPN, or enteral feedings



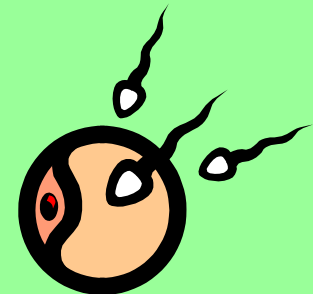
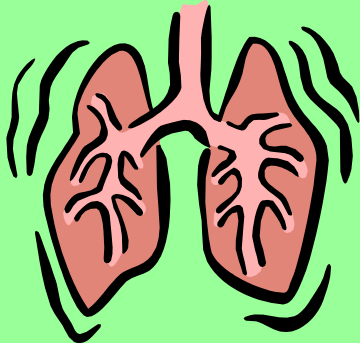
# PVC in Office Supplies?

- Yes, PVC is in notebooks, report covers, sheet protectors....
- If you purchase things for your office, consider looking at alternatives –
  - See Lisa for list of alternatives



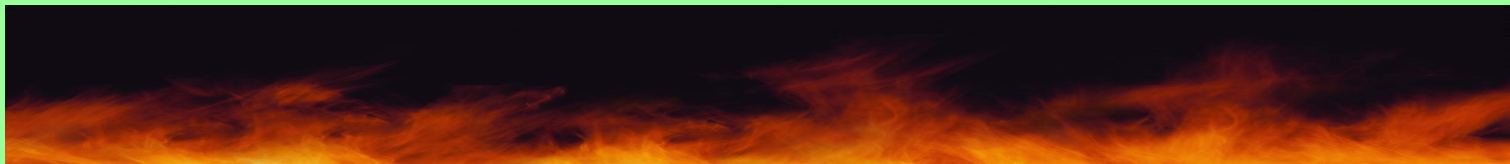
# What are the health effects of DEHP?

- DEHP is a reproductive and developmental toxicant in lab testing.
  - Reduced sperm numbers\*
- It interferes with testosterone synthesis
- Questionable effects on liver and lungs
  - Risk of bronchopulmonary dysplasia



# PVC and Dioxins

- PVC is a major source of chlorine in medical waste incinerators.
  - Chlorine is necessary in formation of dioxin pollution.
  - Dioxins are a group of persistent very toxic chemicals
    - They modulate and disrupt growth factors, hormones, enzymes, developmental processes. In animals dioxins cause cancer.



# What do we do now?

- Establish an organization-wide PVC/DEHP reduction policy.
- Perform an audit – identify what medical devices contain DEHP
  - Prioritize elimination – NICU, Pregnant Women, Pediatrics, Adults
  - Evaluate performance of alternatives
- Identify PVC and DEHP free supplies
- Reduce use – work with purchasing and suppliers
- Sign the Citizens petition for the FDA to label products with DEHP.

# NICU



- Steve Kloman RN, CNS -15 ICN
  - Has eliminated much of the DEHP exposure
  - Currently working on eliminating IV tubing from NICU.
  - We can do more! Who wants to sign up to lead this action?
  - Read more on Health Care Without Harm's Website.
  - Printed materials available

# References

- Health Care Without Harm –DEHP info [www.noharm.org](http://www.noharm.org)
- \*NTP- CERHR Expert Panel Report on Di(2ethylhexyl)phthalate, National Toxicology Program, U.S. Department of Health and Human Services, Center for the Evaluation of Risks to Human Reproduction, October 2000. Page 94.