

Attaining 100% DEHP Elimination in IV Bags

Miller Children's Hospital

Miller Children's Hospital (MCH), located in Long Beach, CA, was founded in 1970 as part of Long Beach Memorial Medical Center. With nearly 200 inpatient beds (69 in the Neonatal Intensive Care Unit), 500 physicians, and 1,200 employees, Miller Children's is a full-service hospital and health system. Each year, approximately 5,000 children are admitted to MCH, 1,000 of whom are treated in the NICU. Miller Children's was independently licensed in 2001 and continues as one of five hospitals (and four NICUs) that comprise the MemorialCare system.

Arthur A. Strauss, M.D., is Medical Director of Miller Children's Hospital NICU. After community advocates and experts alerted Dr. Strauss to the potential threats to neonate health posed by di(2-ethylhexyl) phthalate in January 2002, he created a proposal to eliminate DEHP-containing products and presented it to the Pediatric Department's medical staff. The Department approved a resolution to eliminate medical products containing DEHP where possible. The hospital's Board of Directors subsequently endorsed the resolution.

Because numerous scientific studies show that total parenteral nutrition (TPN) bags and tubing pose the highest risk of DEHP exposure to neonates, the central supply coordinator reviewed Miller's current TPN set-up and conducted a cost analysis to estimate how much it would cost to eliminate DEHP-containing TPN products. After finding out that the TPN bags in current use are already DEHP-free, the coordinator identified IV sets as the first-priority products to eliminate. The total projected cost for the switch away from DEHP IV sets was \$20,000, or approximately \$20 per patient. Other medical devices, such as endotracheal and

gavage tubes containing DEHP, were placed on a list to be evaluated for elimination depending on availability of alternatives from suppliers. Miller is currently conducting a cost analysis for these products.

At the same time, the California Medical Association and the U.S. Food and Drug Administration (FDA) brought attention to the concern of patient exposure to phthalates, including DEHP. Using the new information, Dr. Strauss made a presentation to Miller's Clinical Products Committee, which led to endorsement of the resolution previously approved by the Pediatric Department. However, the proposal began to languish as it moved through the hospital for approval.

At this point, Dr. Strauss decided to pursue a tactic that proved to be the most successful. He framed his proposal to eliminate DEHP products as a patient safety issue. He consulted Miller's risk management attorney, who sent an e-mail opinion that expressed concern about liability risks to the hospital if the change wasn't expedited. After these concerns became apparent, Dr. Strauss and others met with the central supply products manager and the hospital immediately began putting together a purchasing plan to make the switch away from DEHP. As of December 2002, Miller Children's Hospital has attained its target of 100% DEHP elimination in IV and TPN products.

The Miller Children's Quality Council is creating a system-wide patient safety initiative to phase out DEHP throughout all patient areas. The Council is currently conducting cost analysis and researching availability of replacement products. Miller purchases many of its products through Novation, a Group Purchasing Organization (GPO). Novation's recent

announcement to provide information in their catalog on the DEHP content of their products could not have come at a better time.

A NICU DEHP elimination plan has since been introduced throughout MemorialCare's entire system, via its Best Practice NICU team. The Best Practice team is a multidisciplinary group that works to identify, based on the best evidence, optimal medical practices and protocols by monitoring and implementing performance improvement projects. The team is comprised of neonatologists, nurses, pharmacists, dieticians and data personnel.

The plan will be used to demonstrate a new patient safety initiative for JCAHO. MemorialCare is currently studying options for complete replacement of DEHP products system-wide. Dr. Strauss believes the best approach for DEHP elimination is to pursue a patient safety strategy. He has organized a conference for May 2003 on pediatric environmental health and hopes to present his strategies as a way of developing a formalized program in this area of emerging interest.



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