DEVELOPMENTALLY FRIENDLY
Neonatal and Pediatric Intensive Care
Utah Medical Products, Inc. (UTMD) supports Developmental Care.

Unlike adults, tiny NICU patients are unable to verbally tell their caregivers when they are uncomfortable or distressed. Furthermore, neonatal vasculature, skin, and respiration are fragile and underdeveloped.

Developmental Care is a patient-focused treatment approach that focuses on the special needs of premature babies. Recent studies have shown that patients treated with this approach show improved outcomes in all areas—from shorter hospital stays through lower frequency of complications. Under Developmental Care, it is up to the caregiver and the care facility to create an environment that minimizes the amount of stress, discomfort, and disruption to which babies are exposed.

UTMD’s neonatal products should be integral to any NICU’s Developmental Care program. Soft, biocompatible materials reduce irritation and encrustation, resulting in greater patient comfort and fewer reinsertions. Pre-assembled and complete kit products allow quick and easy administration of treatments, thus providing maximum time for nurse practitioners to care for patients.

UTMD provides only Latex-Free products, and most products are free of PVC to avoid patient exposure to the potentially harmful additive DEHP. More information regarding DEHP exposure can be found in the Food and Drug Administration’s Public Health Notification: PVC Devices Containing the Plasticizer DEHP, July 12, 2002, available at: www.fda.gov/cdrh/safety/dehp.html.

Peripherally inserted central venous catheters (PICCs) have become widely accepted in recent years for patients requiring long-term IV therapy for the infusion of irritating fluids and solutions. Once a neonate’s vasculature is developed enough to allow a PICC placement, PICC lines are clinically preferable to a UVC used for essentially the same purpose. PICCs are popular because they have low infection rates, are much less invasive and inexpensive than catheters placed surgically through the chest for delivery directly into the heart, and do not have the high vessel wall irritation problem (phlebitis) that is associated with delivery through peripheral IVs. Because of the need for longer term placement, PICCs made of silicone are preferred by those who are skilled and patient enough to place them.

PICC-Nate is specially designed to avoid irritating baby’s delicate tissues:

- Slender, low-profile hub reduces baby’s discomfort and tissue excoriation.
- Reinforced hub reduces catheter breakage.
- Catheter positioning accomplished with depth markings at every centimeter.
- Barium sulfate-loaded catheter provides radiopacity.

The PICC-Nate body uses a special ‘suture wing’ design that is profiled for ideal hub securement with minimal skin irritation and easy site maintenance.

Extended hub option provides convenient clinician access, eliminates the need for extension sets, is easy to keep clean, and minimizes skin irritation.

PICC-Nate is available with a peel-away introducer. Introducers are also available separately.
- “Quick Flashback” cannula indicates immediate verification of vessel penetration.
- Double-beveled needle tips allow precise vessel entry.
- Fueled entry promotes fast PICC introduction.

Silicone Catheters:
- Ultimate biocompatible material – no plasticizers.
- Resiliently soft and unlike all other materials, Non-irritating to vessel walls to avoid phlebitis.
- Non-reactive to body tissues and body fluids, providing long-term product stability.
- Non-supportive of bacterial growth.
- Non-hemorrhagic – reduces encrustation.
- Non-adherent to tissues – allows easy removal and avoids necrosis of injured cells.

Tecoflex® Catheters:
- Advanced medical formulation of polyurethane.
- Thermosensitive – softens at body temperature such that physical characteristics emulate silicone after placement.
- Slightly stiffer than silicone – easier to insert.
- Allows crisp arterial waveform.
- Higher tensile strength and less catheter elongation to provide more resistance to breaking if catheter is nicked.
- Supports triple-lumen patency in a small diameter catheter.

Tecoflex® is a registered trademark of Thermedics, Inc.
Vascular access to the neonate via the umbilicus provides an ideal means for pressure monitoring and medication or volume expander administration. Umbili-Cath is available in sizes down to 2.8 Fr, providing access to the smallest babies. Dual and triple-lumen Umbili-Cath are available to provide a means of infusing incompatible meds or allowing for continuous monitoring during therapies.

Gesco™ Umbili-Cath is specially designed for ease of insertion, patient safety, and comfort. Umbili-Cath is available in both Silicone and Tecoflex® polyurethane materials. Silicone is known as the most biocompatible and gentle material for vascular access. Tecoflex emulates silicone in many ways, and allows for triple-lumen patency support in a 5 Fr UAC. These advanced materials are PVC-free to eliminate the risk of exposure to DEHP.

All Umbili-Cath feature:
- Soft rounded tips to reduce perforation risks during placement.
- Soft rounded end holes to facilitate better fluid clearing.
- Full numbered depth markings from 1 cm to hub for more accurate placement.
- “Zero dead space” Luer locking hub.
- Barium sulfate loaded catheter provides radiopacity.

STERILE 3-WAY STOPCOCK
- Individually packaged, sterile 3-way stopcocks increase the versatility of catheters and facilitate the changing of kits such as neonatal Deltran, a closed needleless arterial blood collection and pressure monitoring system (see page 14).

CATHETERIZATION TRAY
General Procedure Tray

These instruments and supplies have been selected to address the small size of the neonatal patient. All of the delicate, disposable instruments in the tray are made of high quality stainless steel, with a quality and feel comparable to more expensive reusable instruments. Applications include:
- PICC placement
- Umbilical vessel catheterization
- Catheterization and other procedures that demand precision instruments and components appropriately sized for smaller patients.

STERILE 3-WAY STOPCOCK
- Provides a convenient method to avoid the trauma of and time required for reinsertion of a new PICC.
Nutri-Cath is a nasogastric, orogastric, or nasojejunal enteral feeding catheter for neonatal and pediatric intensive care. It avoids multiple placements with a non-stiffening, non-clogging, biocompatible silicone material. Because it is silicone, Nutri-Cath can indwell for up to 30 days without adverse effects. In comparison to feeding tubes, it avoids the need for frequent placements that are highly traumatic to baby’s delicate tissues. Nutri-Cath has a soft open end with two side holes to provide rapid diffusion of enteral formula without clogging. Polyurethane and PVC feeding tubes have closed ends, which eventually occlude and must be changed.

- Non-wettable silicone material will not perforate clog or adhere to lining of stomach during sampling (see page 2 for more advantages of silicone)
- Less interruption of important sleep cycles because it is softer.
- Barium sulfate-loaded catheter is highly visible under x-ray for easy verification of tip placement.
- 3.5 Fr, 5 Fr, 6.5 Fr, and 8 Fr sizes accommodate the full range of babies, even 500g preemies.
- Orange hub identifies enteral-only connection to prevent accidental medication infusion.
- Depth markings graduated every centimeter.
- Choice of standard luer lock connector or locking oral dose connector (patent pending).

Nutri-Lok enteral feeding-only extension sets and syringes:
- Will not mate with a female luer IV connectors.
- Ensure a secure connection that will not accidentally slip apart.
- Are compatible via slip fit with other oral dose enteral feeding catheters, but only lock with Nutri-Cath.

Nutri-Lok oral dose syringes have an orange tip and printing to denote enteral feeding only.

Monoject™ syringes: for easy recognition by existing syringe pumps.

With Nutri-Lok, the secure locking connection is designed to ensure no accidental disconnects at either the catheter or the syringe.

The oral dose Nutri-Cath hubs have threads which allow the Nutri-Lok extension sets to lock onto the catheter hub. Competitive sets connect via slip fit – when enteral solutions are administered, the connection becomes slippery and can easily disconnect.

Customer Service | 1-800-533-4984 | www.order.utahmed.com
DIALY-NATE®

Neonatal/Pediatric Disposable Peritoneal Dialysis Sets

Because babies do not have the blood volume to support hemodialysis, alternate dialysis methods must be employed and must be provided in a timely manner. Peritoneal dialysis is an ideal method to aid babies with compromised renal function.

The Dialy-Nate kits are the only pre-assembled peritoneal dialysis kits designed for the neonate. Because they are pre-assembled, Dialy-Nate is safer and more effective than assembling separate tubing and components. Dialysis can begin much sooner since nursing and technician time is not spent researching hospital dialysis assembly procedures. And since dialysis is not a frequent NICU need, the presence of a pre-assembled ready-to-use dialysis kit can truly be a ‘life-saver’.

• 3 bag spikes for mixing infusate.
• In-line bacterial retentive (0.2 micron) filter.
• Choice of an in-line helical infusate warming coil or 600 cm of tubing for use in a blood/fluid warmer.
• A finely graduated dialysate meter with overflow bag.

URI-CATH™

Closed Urinary Drainage System for the Neonatal/Pediatric Patient

Babies in the NICU require gentle urinary drainage. Silicone is the ideal irritation-free catheter material for use in the fragile urethral tissue. The Uri-Cath set is a sterile, pre-assembled urinary drainage system that provides continuous and accurate monitoring of urine output, eliminating the inconvenience and measurement error associated with weighing diapers. Gentle silicone catheter material and soft rounded tip with non-wettable surface reduces trauma during insertion and avoids perforation.

• Pre-assembled closed system reduces risk of infection and reduces valuable nursing time.
• Stopcock with sampling access site allows for non-contaminated midstream specimen sampling.
• Biocompatible, non-reactive silicone minimizes urethral irritation and encrustation associated with other materials.
• 150 ml burette for accurate urine output measurement.

Available in:
• 2.5 Fr
• 5.0 Fr
• 8.0 Fr

Customer Service | 1-800-533-4984 | www.utahmed.com

8
Accurate Fi
L
Allows multiple aliquot preparation
R
Small priming volume
Ideal
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P
18 Micron Filtration System

Blood breaks down when stored. Studies have shown that small volumes of resulting particulate debris ("microparticles") can be responsible for producing significant changes in pulmonary function, including pneumonia.

The common practice of blood filtration using an "adult" 150 micron filter does not adequately protect the hypersensitive neonate from lodging of fibrinogen/fibrinoprotein particulate material in the pulmonary capillary bed.

Hemo-Nate’s 18 micron stainless steel filter media was selected to efficiently filter the non-viable microaggregate blood components, yet allow the viable components through without damage.

Hemo-Nate also provides an ideal method for delivery of small aliquots of blood and blood products to multiple patients from a single unit.

A needleless Hemo-Nate system is available.

- High microaggregate retention
- Allows multiple aliquot preparation from a single blood unit
- Small priming volume (0.7cc)

Stainless Steel Filter Media — The electrostatic properties provide exceptional flow. It is more gentle on blood components than plastic strand fibers.

The newborn’s surface-area-to-body-weight ratio is much higher than that of an adult, and therefore its metabolism is extremely sensitive to inconsistencies in the thermally controlled and humidified environment. Precisely maintaining a Neutral Thermal Environment (NTE) for critically ill babies means that they can use their energy to develop and heal.

Disposa-Hood is an excellent solution to problems encountered during oxygen delivery and NTE control:

- Accurate FiO₂ levels within Disposa-Hood are easy to maintain. Disposa-Hood’s unique “Laminar Flow” design and inlet diffuser gently guide prescribed warmed, humidified, and oxygenated air directly to the baby’s face. CO₂ flushing is also improved.
- A convenient top port provides the ideal location for accurate monitoring of oxygen concentration and temperature.
- Disposa-Hood’s unique inlet diffuser prevents oxygen from blowing directly on the baby’s head, avoiding the risk of apneic episodes.
- A soft padded neck opening does not require clinician assembly, and is selected to prevent irritation to the baby’s sensitive skin.

Disposa-Hood also provides other benefits to baby and NICU medical staff:

- Completely clear and seamless design provides an unobstructed and distortion free view of the baby, and gives baby’s parents more comfort since Disposa-Hood appears less invasive and constraining.
- Larger sizes are versatile — Disposa-Hood’s opening can be placed around baby’s neck or can be used “over-the-torsos”.
- Is easily lifted from baby and set aside for quick access to baby’s head without affecting the NTE, or can be kept in place over baby, maintaining NTE while administering therapies via baby’s torso, arms, and legs.
- Ideal for transporting infants between facilities, since the need to track and return reusable hoods is eliminated.
- Disposable hood eliminates the cost of hospital resources required to disinfect used hoods.
- Reusable, weighted base collar keeps hood in place even with the most active baby.
How prevalent are palatal grooves?

In a study of 26 intubated babies whose birth weights ranged from 540g to 1740g, and whose intubation duration ranged from 7 to 108 days, a palatal protection device prevented palatal grooves in all cases, while all babies in a control group (that did not have palatal protection) developed palatal grooves ranging from 2-5mm in depth. This data demonstrates that 1) palatal grooving is common in intubated premature babies, and 2) the use of an intraoral device for premature, intubated babies prevents palatal grooves.

Studies have shown a high incidence of adverse effects in babies subject to prolonged intubation:

- Palatal grooves, high palatal vaults, posterior crossbites, and poor speech intelligibility are strongly linked to long-term intubation.
- The effects of palatal grooves can be persistent for as long as five years, and thus may affect future dental and orofacial development.
- The presence of orotracheal tubes causes discomfort in babies, whose resulting jaw and tongue reactions can dislocate nasojejunal feeding tubes. Reintroduction of extubated devices can result in oroesophageal trauma.

Since these effects have permanent, long-term negative effects, taking action to protect baby’s palate from damage should be a priority. The patented Pala-Nate is an ideal solution to these serious and avoidable problems. Pala-Nate is made from soft, biocompatible silicone, which gently protects the palate from localized pressures that cause palatal grooves. The four Pala-Nate sizes allow for precise and comfortable fit on a full range of babies.

- Virtually eliminates palatal grooves
- Reduces spontaneous extubation
- Increases baby’s tolerance of orotracheal intubation

The Myelo-Nate CSF Sampling Kit minimizes trauma and reduces the risk of infection from cerebrospinal space access. The short, bevel-point design of the needle is less traumatic than other types of lumbar puncture needles because its Quincke-type point spreads and displaces the dura mater rather than cutting through it. This reduces overall penetration forces, yet still gives a positive feel when penetrating the dura mater, and avoids leaving a hole in the spinal column that would allow CSF leakage or infection.

The needle’s crystal clear hub provides quick visual detection of fluid flow.

1. U.S. Patent 5,195,513

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UTMD applied its industry-accepted disposable blood pressure monitoring technology to the special needs of the NICU. UTMD’s Deltran disposable pressure transducer expertise is integrated into a closed blood collection system that is designed specifically to conserve blood and protect the neonatal patient from infection.

- Closed sampling system reduces risk of sepsis.
- Conserves precious blood volume of the neonatal patient.
- Needleless sampling system to avoid potential exposure and cross-contamination.
- Clear, saline-free blood sample for accurate lab analysis.
- Accurate blood pressure measurements with components that simplify setup.

**Deltran Plus Closed Sampling Procedure:**

1. Open reservoir syringe stopcock (‘off’ to transducer).
2. Draw 1cc from catheter-tubing system into reservoir syringe (pulls pure blood into access port).
3. Close one-way anti-backflow stopcock.
4. Insert blunt cannula into access port to draw blood into sampling syringe.

Now reverse steps 1 through 3:

- Open one-way anti-backflow stopcock.
- Re-infuse 1cc from reservoir syringe to the patient.
- Close reservoir syringe stopcock to resume blood pressure monitoring (‘off’ to reservoir).
# ORDER INFORMATION AND PRODUCT SPECIFICATIONS

## Umbili-Cath™ UVC/UAC Silicone and Tecoflex Polyurethane Catheters

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## PICC-Nate® Catheters

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## Nutri-Cath® Silicone Enteral Feeding Catheters

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## Disposa-Hood™ NTE/Respiratory Hoods

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<td>(1500g-2000g)</td>
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<td>(all sizes - over torso)</td>
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## Uri-Cath™ Silicone Urinary Drainage Catheters

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## Dialy-Nate® Peritoneal Dialysis Kit

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## Myelo-Nate® CSF Sampling Kits

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## Thora-Cath® Silicone Chest Drainage Catheters

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## Deltran® Plus Closed Blood Sampling/Pressure Monitoring System

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## Nutri-Lok™ 60” Locking Enteral Extension Set

| 4150007 | Packaged 50/Box |

## Dialy-Nate® with warming coil

| 4000507 | Packaged 1/Box |

## Dialy-Nate® with warming tubing

| 4000517 | Packaged 1/Box |

## Pala-Nate® Orotracheal Protection Devices

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## Hemo-Nate® Blood Filtration Products

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