

What type of tape is used?

For the taping of the pre-maxillary segment, the product that was used in the picture in the presentation was DynaCleft from Canica Design, Inc.

<http://canica.com/dynacleft.asp>

Could you give further explanation of the difference between the Dr. Brown's bottle with cleft valve and the Pigeon bottle/nipple?

Both use a valve with a similar mechanism, and are designed to make the baby's compression during sucking more effective at transferring milk. They will both work best when the baby has more palatal surface to compress the nipple against. The differences are in the nipple design:

Pigeon: There are 2 sizes of nipples, both have a tri-cut that opens as the baby compresses it. The amount that it opens depends on how the baby compresses the nipple. In general, this type of opening is larger than a standard hole when the baby opens it by compressing, thus giving higher flow. The smaller nipple has a smaller opening, so has less flow, but it can still be too high for some young babies if they have strong compression. The Pigeon nipple also has one side that is softer. This is the "tongue side" of the nipple and is intended to make it more responsive to the babies tongue movements. The larger Pigeon nipple is wider than a typical nipple, so may contact more palatal surface than a narrow nipple.

Dr. Brown's: This system uses the standard selection of Dr. Brown's nipples, so flow rate is controlled by selecting the appropriate sized nipple hole (preemie through 4). Small compressions can deliver milk, since the hole is already open. There is also a "Y" cut nipple that needs compression to open, but then has a very large opening. Having this range of nipple selection may allow finer grading of flow to match a baby's needs. It is a standard, narrow nipple, so may be too narrow to allow good compression with wider clefts.

Did I interpret correctly that you are suggesting to start with an assisted delivery device and move toward a non-assisted?

Babies with cleft lip and/or palate require assisted milk delivery for feeding to be easy and efficient for both baby and feeder. This assistance can be accomplished in two ways. One way is by using a bottle that is designed so that the liquid flows out of the bottle by the compressive force of the baby's tongue alone. With this bottle, the baby can independently create flow and therefore, the baby has control over the pace of the feeding. When using these bottles, such as the Pigeon, Dr. Brown's with cleft valve, or Haberman, the feeder might select the appropriate nipple to obtain a flow rate appropriate to the baby's swallow/breathe abilities. However, in order for these bottles to work efficiently, the baby needs to have enough upper palatal surface to compress the nipple between the palate and the tongue. If the baby has a very large cleft, the baby may not be able to press on the nipple, minimal liquid flow would be obtained and feeding would be inefficient.

The second way to assist with milk flow is by the feeder squeezing the bottle to create liquid flow. This is the action of the Mead-Johnson cleft palate nurser (squeeze bottle) or by squeezing the nipple of the Haberman. The feeder would need to rhythmically squeeze the bottle in time with the baby's sucking pattern to match the baby's swallow/breathe sequence. Squeezing too fast may cause the baby to choke and sputter. Squeezing too slow, would lead to inefficient, lengthy feedings.

Certainly the preferable method of feeding a baby is for the baby to have independent control over the feeding process. When deciding which type of assisted milk delivery bottle to choose, consider if the baby's anatomy would support the use of a compression type bottle. That is, can the baby produce the needed compression between the tongue and remaining palate. If so, start with one of those bottles. However, if the baby's anatomy is such that compression cannot be generated, the baby will need assistance from the feeder and a squeeze type bottle will be needed.

You do not have to start with an assisted device and move to a non-assisted device. By carefully evaluating the baby's anatomy, you may be able to select the appropriate type of device at the beginning. Then assess the appropriate nipple flow rate. It would be nice if all babies could use a non-assisted device. However, the type and size of a baby's cleft could make that not feasible.

How do you clean/sterilize the re-usable bottles in the NICU or hospital setting? We use a cold water sterilization procedure which discolors the plastic and smells like bleach, thus looking to change our protocol.

Cleft palate bottles and other specialized bottle/nipples are dispensed to individual babies for use and reuse. The bottles/nipples are washed at the bedside by the parents or nursing staff using standard dish soap and hot water. They are also sanitized using commercially available microwave sanitizer bags one time per day.