

*No. 1 choice
of hospitals
& mothers*

Breastfeeding products for hospitals and professionals





MICHAEL LARSSON
Chairman of the Board | Medela AG

passion for perfection

Global leadership

Medela is a Swiss company with a tradition going back more than 50 years, focussing on pioneering research in the field of medical vacuum technology. The original series of Medela products were developed for breastfeeding, and by continually applying its expertise and innovation in medical vacuum technology, the company is now recognised as being the global leader for advanced breast pumps and infant feeding solutions.

Breast milk is best

We firmly believe that breast milk is the best form of nutrition for babies. It is for this reason that we promote breastfeeding and support families during this stage of the baby's life. We continually carry out exploratory research into human milk and breastfeeding, with particular emphasis on discovering the components of human milk, looking at the anatomy of the lactating breast, and understanding how the infant actually removes milk from the breast. As a result of these efforts, we are better equipped to understand the needs of mother and baby, and can optimise the process of obtaining human milk and help with the infant feeding process.

Medela promise

With our aligned range of breastfeeding products and services, we strive to ensure the best support for the hospital, mother and infant. We believe in enhancing babies' health through the positive benefits of human milk by supporting mothers during their breastfeeding experience.

Complete breastfeeding solutions

Medela's breastfeeding products are the result of over two decades of evidence-based research. During this time, we have focussed our energy on understanding mothers' needs and infant behaviour. Their health, demands and wishes during the precious breastfeeding period are at the centre of all our activities.

We have thoroughly examined the characteristics of breast milk as well as the method by which the infant feeds, along with the workings of the lactating breast during breastfeeding. All the accumulated knowledge has been used to develop an integrated solution depicted in the circle below. Whatever the need, Medela offers complete solutions based on evidence-based research, expertise, innovation and professionalism.

The inner circle illustrates the core of Medela's research-based philosophy to deliver new products, the commitment to support professionals through education and the aim to provide excellent customer service. The outer circle maps out the various stages of breastfeeding and the handling of human milk.





breast milk is best



Evidence-based research

Medela strives for excellence in evidence-based research – an attitude that has enabled the company to develop advanced breast pump and human milk feeding technologies. We work with experienced medical professionals and seek collaboration with universities, hospitals and research institutions world-wide.



Expertise

Medela shares its expertise and ideas with leading clinicians across the globe. Research findings are presented at international congresses and published in leading peer-review journals.



Innovation

As a pioneer of medical vacuum technology, Medela is constantly looking for ways to improve products from new research findings that come to light, as well as suggestions and input from hospitals and professionals.



Professionals

Medela enjoys close links with hospitals interacting with midwives and lactation consultants on maternity wards and NICUs, paediatricians, neonatologists and hospital administrators.



Service

Customer service is taken very seriously at Medela with support extending beyond warranty. Our aim is to ensure the smooth use of all Medela products with requests being handled quickly and efficiently.



Education

Within Medela, research and education are closely linked. Medela connects clinicians and educators in ways that lead to professional growth, exchange of knowledge and interaction with the broader scientific community.



Pumping

Helping mothers to express milk is Medela's core competency. This category contains the world's leading breast pumps, incorporating the unique 2-Phase Expression technology. Hospital-grade pumps such as Symphony, as well as high-end retail pumps for personal use, utilise this efficient technology that mimics the infant sucking pattern.



Collecting

Careful and hygienic collecting of breast milk in BPA-free bottles or containers is essential for infant health. To make mothers more comfortable, well-fitting breast shields, pump sets and other pump accessories are available to assist breastfeeding.



Breast milk management

These products are designed to help staff and mothers handle human milk. Easy solutions exist for labelling, storage, transport, cleaning, warming and thawing – all helping the safe management of human milk.



Feeding

Medela provides a range of differentiated products for diverse feeding situations. Calmita is the latest research-based innovation, offering a hospital feeding solution when direct breastfeeding is not possible.



Breast care

These products have been designed to make breastfeeding as comfortable as possible. During times when a little extra support is needed, Medela offers solutions to breastfeeding mothers. Our breast care range includes small and practical devices to overcome first hurdles.



Knowledge fuels inspiration

Medela conducts research on various topics in collaboration with the world's leading scientists and universities. Our long history of research and our ground-breaking findings also shape the future. Our craving for more knowledge and our aim for an even better and more detailed understanding of breastfeeding are not yet fulfilled. Understanding what has applied over millions of years in nature lies at the heart of Medela's technology.

Breast milk composition

Breast milk is best for all infants. It contains all the ingredients for a healthy new life. It not only provides nourishment, but also gives immunological and developmental benefits that are unique for each mother and infant. Although the nutritional benefits of breast milk cannot be underestimated, many researchers question whether nutrition is the major function of breast milk. It has been suggested that the mammary gland itself evolved as part of the innate immune system and that nutrition was subsequent to protection¹.

Breast milk contains living cells that provide unique immunological benefits and has many ingredients that also help to protect the infant². It also has the ability to adapt to the needs of the growing infant. It changes throughout lactation and provides exactly the right amount of proteins, carbohydrates and fats for each individual infant at the right time.

There is so much to learn about breast milk and recent advances have identified multipotent stem cells and microRNA in

breast milk^{3,4}. The importance of these for the infant is still unknown and research is ongoing. Nevertheless these findings do highlight the complexity and importance of breast milk and that the production of breast milk via lactocytes (Figure 1) is an intricate procedure and a highly complex subject. At Medela, we have created educational materials to help professionals understand the stages and the complexity of milk production.

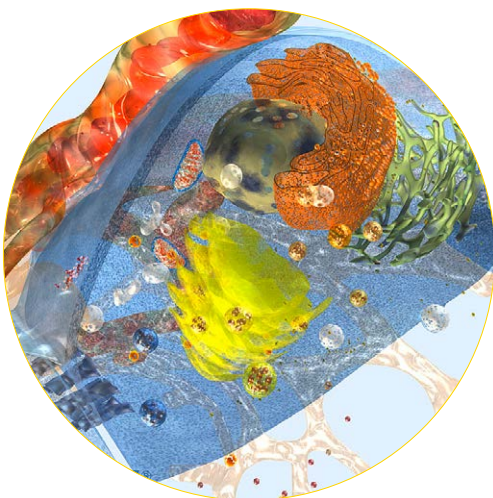


Figure 1 – A lactocyte: milk making cell, the core of milk production



research brings clarity

Breast anatomy

One Medela research initiative has lasted almost 20 years thanks to a special relationship with the Hartmann Human Lactation Research Group of the University of Western Australia (UWA). Early research on Medela's 2-Phase breast pumps led UWA researcher Assoc. Prof. Donna Geddes to use ultrasound on the lactating human breast. This overturned the knowledge of breast anatomy that had existed for over 160 years.

When performing ultrasound scans on the lactating breast, Assoc. Prof. Geddes began to question the anatomical diagrams that appeared in textbooks. The standard model of the breast was based on anatomical dissections carried out on cadavers by Sir Astley Cooper, who published his results in 1840⁵. Very little research had been carried out since. The research performed at the Hartmann laboratory made some ground-breaking discoveries⁶ that overthrew most of the prior understanding of the anatomy of the lactating breast (Figure 2).

The key findings⁶ were:

- ! The number of ductal openings is 4–18 and not 15–20
- ! The ducts branch closer to the nipple
- ! The conventionally described lactiferous sinuses do not exist
- ! Ducts can reside close to the skin surface making them easily compressible
- ! The majority of the glandular tissue is found within 30 mm of the nipple

The implications of this research are numerous. Firstly, since the number of milk ducts in the breast can be fewer than first thought, breast surgery techniques should aim to protect and conserve the ductal anatomy.

For lactation practice this highlights the need for a rapid and efficient first milk ejection. Since milk is not stored in the milk ducts (no lactiferous sinuses), milk ejection must occur to transport milk from the alveoli to the nipple for milk removal.

There are also implications for hand positioning and breast shield fitting. As there is very little subcutaneous fat, and the ducts are quite superficial they can be occluded if too much pressure is applied to the skin surface. Mothers should therefore avoid pushing the breast shields too hard against the breast, and use a correctly sized breast shield to avoid compressing the milk ducts and restricting milk flow.

Ducts branch close to the nipple

Conventionally described lactiferous sinuses do not exist

Glandular tissue is found close to the nipple

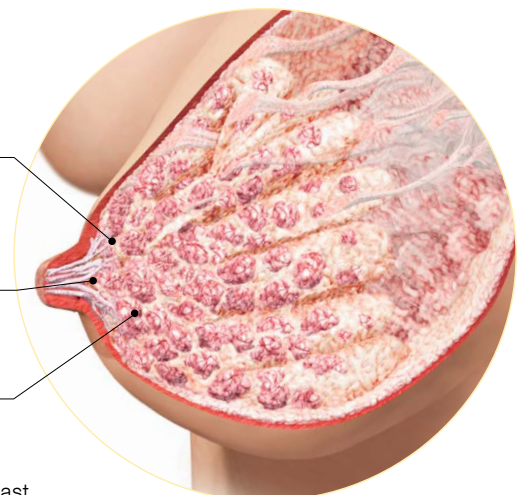


Figure 2 – Anatomy of the lactating breast



Further enlightening results

Infant sucking: new research

Research on the anatomy of the lactating breast raised further questions, prompting further research. For example, if the lactiferous sinuses do not exist, what mechanism does the infant use to remove the milk from the breast?

The conventional view of infant sucking⁷⁻⁹ was based on the earlier understanding of the anatomy of the lactating breast and assumed that the lactiferous sinuses were drawn into the baby's mouth while peristaltic action of the tongue "stripped" the milk from the ducts. The lack of lactiferous sinuses questions this assumption, and

further research by Assoc. Prof. Geddes revealed that negative pressure (intraoral vacuum) is key for milk removal¹⁰, a finding that has been supported by other studies¹¹⁻¹⁴.

The key findings of the new research were:

- | Vacuum is the key to milk removal
- | The tongue moves in an up and down manner without accentuated peristalsis
- | The nipple is compressed evenly along its length
- | The tip of the nipple does not reach the junction of the hard and soft palates

During a suck cycle (Figure 3), the vacuum begins at the baseline, increases as the tongue lowers, and reaches a maximum when the tongue is at the lowest point. It is at this point that the milk flows. The tongue then rises and comes to rest again at the baseline and the milk stops flowing.

The research demonstrated that vacuum is an integral part of milk removal from the breast by the infant. This led to the development of innovating feeding devices Calma¹⁵⁻¹⁷ and Calmita^{18, 19}.

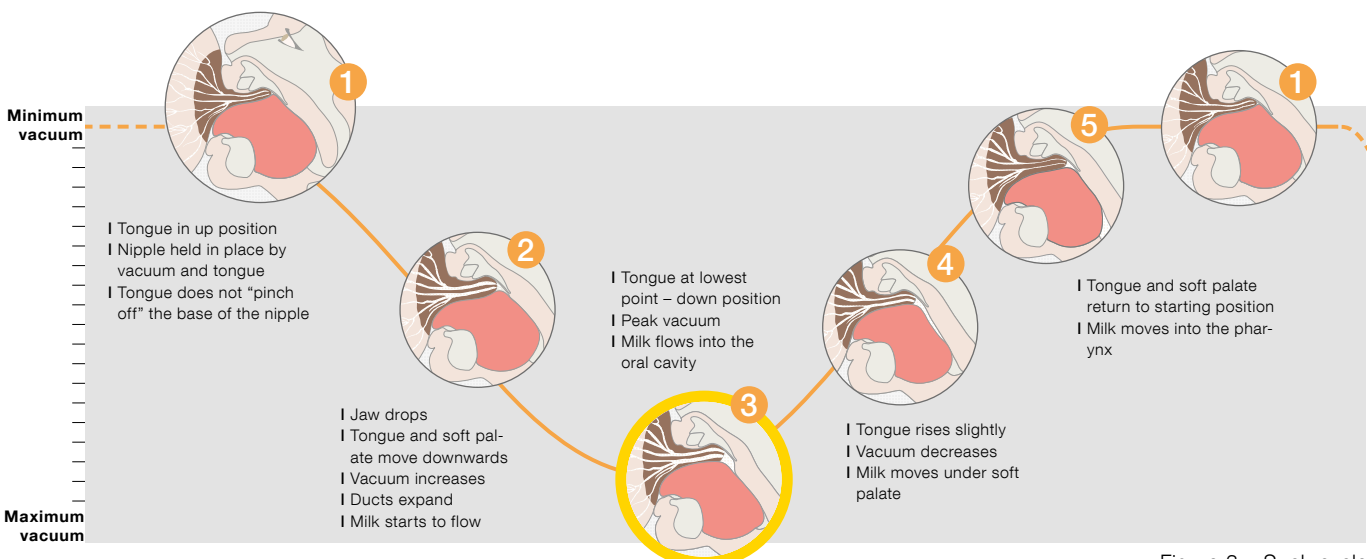


Figure 3 – Suck cycle



design driven by nature

Patterns of infant sucking

Nature made infants very efficient. They instinctively know the best way of getting milk from the breast, by changing their pattern of sucking during breastfeeding. Over a period of approximately two years, several studies took place investigating this natural sucking pattern under the leadership of UWA Professor Peter Hartmann. This research led to the development of 2-Phase Expression technology²⁰⁻²².

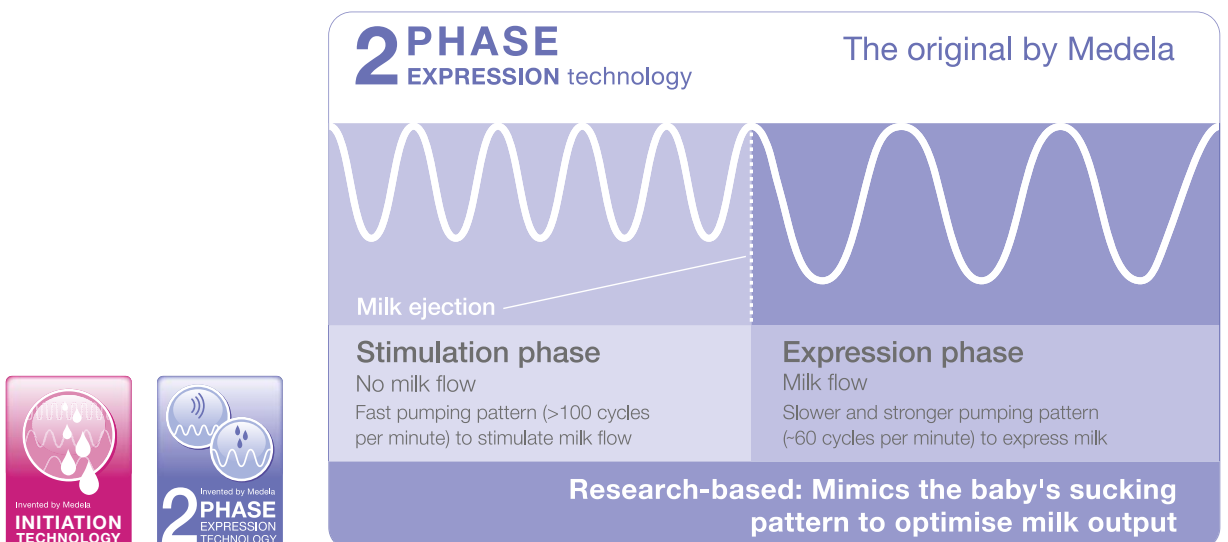
During established lactation, the infant attaches to the breast and initially uses short, fast sucks to stimulate milk ejection. Once milk begins to flow, the infant changes to a slower, deeper rhythm to remove milk^{13, 23}. 2-Phase Expression technology from Medela has converted the infant's

intuitive behaviour into technological know-how. The 'Stimulation Phase' provides a pumping pattern >100 cycles per minute. This stimulates milk ejection, and milk begins to flow. The mother can then press the let-down button to switch to the 'Expression Phase', a slower pumping pattern of around 60 cycles per minute (depending upon vacuum strength chosen). However, in the first few days after birth, before secretory activation ('milk coming in') has occurred, the infant feeds a little differently. As there is little milk available²⁴, the infant will suck more irregularly with pauses²⁵⁻³⁰.

Working with Professor Paula Meier of Rush University Medical Center, Chicago, USA, a

specifically designed pumping program was developed that intended to mimic this sucking behaviour in the first days after birth. The results of the blinded clinical trial were significant. Mothers that used this initiation technology prior to secretory activation, followed by 2-Phase Expression technology, compared to mothers using only 2-Phase Expression technology, produced significantly higher milk volumes in the first weeks after birth³¹.

The combined use of this initiation technology, together with the 2-Phase Expression technology helps to initiate, build and maintain milk production, meaning more mothers produce enough milk for their babies³¹⁻³³.





Pumping

Leading breast pump technology

Medela's hospital-grade breast pump Symphony is ideal when direct breastfeeding is not possible or when a mother is experiencing lactation difficulties.



SYMPHONY® BREAST PUMP

The Symphony breast pump with its research-based pumping programs has been developed specifically to support mothers of preterm and term infants to initiate, build and maintain an adequate milk production.

Symphony is a reliable, multi-user breast pump for hospitals and home rental. It is ideal for long-term and frequent pumping needs.

✔ **Safe to use**

Overflow protection to ensure high level of hygiene

✔ **Easy handling**

Single-knob control for simple vacuum level adjustment

✔ **Quiet**

Vibration-free motor for pleasingly quiet operation

ACCESSORIES:

- | mobile stand
- | hard case
- | card & cord protector
- | car connection cable





pumping intelligence

Implementing new research insights

Research is a continuing journey of discovery and the Symphony breast pump is designed with the flexibility to be upgraded, as new research is released, with a simple change of program card.



SYMPHONY PLUS PROGRAM CARD

The research-based pumping programs of Symphony PLUS have been developed specifically to support mothers of preterm and term infants to initiate, build and maintain an adequate milk production^{31, 33}.

The Symphony PLUS program card contains software with two different pumping programs for the Symphony breast pump.



Supporting the first days of lactation: The INITIATE program with Medela's initiation technology

The INITIATE program mimics the irregular and more rapid sucking and pausing pattern of a term born infant during the first days of lactation²⁵⁻³⁰ and supports pump-dependent mothers to successfully initiate milk production³¹⁻³³.



Mimicking nature to optimise milk output: The MAINTAIN program with 2-Phase Expression technology

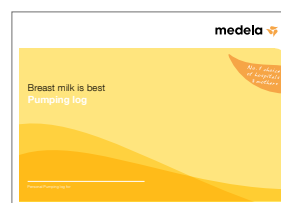
The MAINTAIN program is based on the 2-Phase sucking pattern of a term born infant during established lactation^{13, 23} to optimise milk output⁴⁻⁸ and to support all mothers to build and maintain lactation^{20-22, 34}.

The Symphony PLUS program card is delivered with the Symphony breast pump.



SYMPHONY STANDARD PROGRAM CARD

The Symphony Standard program card contains the Standard 2.0 program with the 2-Phase Expression technology. The program is designed to build and maintain milk production after secretory activation has occurred^{31, 33, 34}. The Symphony Standard program card is available as optional accessory.



PUMPING LOG

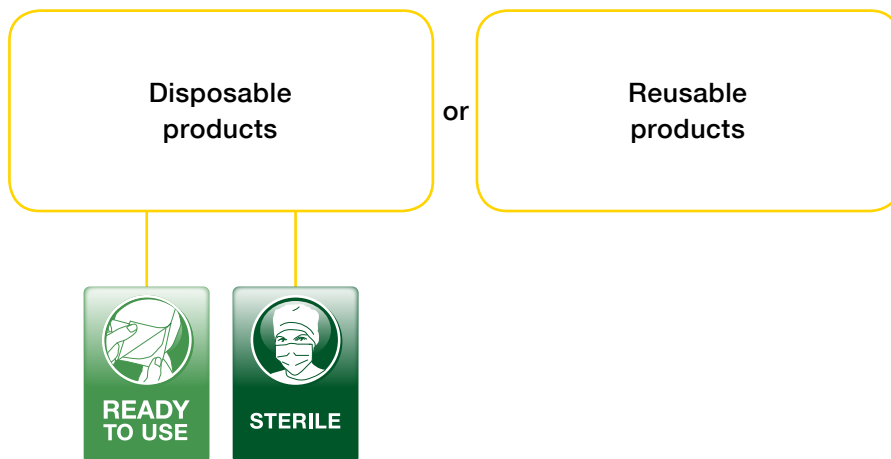
The Pumping Log is especially designed for pump-dependent mothers. It helps to establish appropriate pumping expectations, explains benefits of providing breast milk, and gives helpful tips and hints. Additionally, this log can help nurses to solve potential breast milk production issues before they become serious.



Solutions for every hospital and every situation

As a result of Medela's continued commitment to research and understanding the whole breastfeeding process, a range of products has been developed to help mothers feed their infants breast milk. Medela products and services aim to ensure the best support for the hospital, mother and infant.

For Medela breast pumps, a range of auxiliary equipment has been designed to help mothers and hospital staff handle human milk safely. The range is comprised of pump sets and collection bottles, as well as standard and special feeding solutions. According to various needs of hospitals and local guidelines, Medela offers convenient disposable and reusable products.



Disposable products

With its disposable product range, Medela greatly simplifies the daily routine involved in breastfeeding and allows hospitals to improve process efficiency by eliminating the need for cleaning prior to first use. In order to provide tailored solutions for every hospital and situation, products are available as both Ready-to-Use and sterile versions.

Reusable products

The reusable product range is suited to hospitals using a cleaning process to sterilise and disinfect equipment prior to re-use by the next mother. In those hospitals where such practices are mandatory, Medela reusable pump sets, collection bottles and feeding solutions represent an optimal choice to partner with Medela breast pumps.



meeting local requirements

Ready-to-Use option



Medela Ready-to-Use products are a hygienically safe³⁵ and cost-effective disposable product option for all markets where the use of a non-sterile product is allowed by local guidelines or regulations. They have been approved for sick infants, preterm infants, term infants, and their mothers³⁵ and can be used without prior cleaning.

- ✔ Products formed at over 150 °C – destroying potential pathogens
- ✔ Production and packaging take place in a clean room under laminar flow*
- ✔ Samples from every LOT microbiologically tested³⁶ before release
- ✔ More than 10 times cleaner than bottled water³⁸
- ✔ Hygienically safe³⁵ and cost-effective choice to use for term infants, preterm infants, sick infants, and mothers³⁵

Sterile option



Medela sterile products are validated according to the applicable standards^{36, 37} for sterile medical devices. They are available for markets and hospitals where the use of a non-sterile product is not allowed by local guidelines or regulations, or when sterile products are specifically requested. Note that single sterile packaging guarantees sterility for each individual product until the packaging is opened or the expiry date is reached.

- ✔ Validated manufacturing process according to standards^{36, 37} for sterile medical devices
- ✔ Products treated with EO-gas – certified as sterile for the entire shelf-life
- ✔ Single sterile packaging guarantees sterility for each individual product
- ✔ Single-use products for minimum risk of contamination over time

* Laminar flow housing with air quality similar to EN ISO 8 or clean rooms EN ISO certified class 7 or 8³⁹



Collecting

Containers for liquid gold

To help guarantee the efficient use of pump sets and bottles, Medela offers a wide range of products according to the various needs of hospitals. Convenient disposable products as well as reusable pump sets and bottles used in conjunction with Medela breast pumps, form an integral part of the complete system that Medela provides.



REUSABLE PUMP SETS

For hospitals with traditional sterilisation / disinfection processes

- ✓ Autoclavable
- ✓ Designed for use by multiple mothers
- ✓ Single and double pump sets available
- ✓ Available with breast shield sizes M (24 mm), L (27 mm), XL (30 mm)
- ✓ Additional breast shield sizes S (21 mm), XXL (36 mm)



BPA-FREE

Medela breast milk bottles, breast shields and all Medela products that come in contact with human milk are made from food-grade material and without BPA.



DISPOSABLE PUMP SETS

For optimised and convenient pump set handling to save time and costs



STERILE SINGLE-USE PUMP SETS

- ✓ EO sterile
- ✓ Designed for single use only
- ✓ Available with breast shield sizes M (24 mm), L (27 mm) and XL (30 mm)

READY-TO-USE ONE-DAY PUMP SETS

- ✓ Ready-to-Use
- ✓ No cleaning needed prior to first use
- ✓ Designed for use by a single mother
- ✓ Limited number of uses: Max. 8 pumping sessions within 24 hours
- ✓ Available with breast shield sizes M (24 mm), L (27 mm) and XL (30 mm)



safe and precise handling



DISPOSABLE BOTTLES 80, 150, 250 ML

For collecting, storing, pasteurising and feeding human milk

- ✓ Ready-to-Use and EO sterile
- ✓ Designed for single use only
- ✓ Laser-print graduation for precise measurement of milk volume
- ✓ Small graduation increments (2 mL or 5 mL) for preparing or feeding precise amounts



New

UNIQUE DESIGN



DISPOSABLE COLOSTRUM CONTAINER 35 ML

For collecting small amounts of colostrum

- ✓ EO sterile
- ✓ Designed for single use only
- ✓ Curved bottom to minimise loss of colostrum
- ✓ Small size to keep mothers motivated





Handling precious breast milk

Medela products aim to ensure that vulnerable infants receive the life-giving benefits of breast milk. Calesca helps maintain the optimal integrity of human milk ensuring a safe, hygienic and standardised method for preparation of feeds for hospitalised infants.



CALESCA

Designed for individual care in the NICU, Calesca is a warming/thawing device for the safe and efficient warming and thawing of human milk or supplement in a hospital environment.

- ✔ Gentle warming: individual portions of human milk can be warmed to an ideal feeding temperature without overheating. This aims to preserve valuable nutrients and vitamins.
- ✔ Fast thawing: human milk can be efficiently thawed, portioned and subsequently stored in the refrigerator until needed.
- ✔ Hygienic: the use of circulating warm air in an enclosed chamber eliminates the possibility of contamination from the use of water.
- ✔ Flexible: Calesca keeps milk warm for up to 30 minutes after the completion of a warming cycle, giving the caregiver more freedom and flexibility while not compromising milk integrity.
- ✔ Beneficial: supports family-centred care and flexible feeding preparation times.

DISPOSABLE INSERTS

Calesca uses disposable inserts that hold the milk bottle or syringe. It is recommended to change the insert every 12 hours to fulfil hygiene requirements.

- ✔ Individual disposable inserts reduce cross-contamination and make the device easy to clean.



ACCESSORIES:

- I IV pole adapter

Overcoming first hurdles

Natural breastfeeding is not always possible. Infants unable to feed at the breast for whatever reason, still need to receive the unique benefits of human milk. This presents a variety of challenges for which Medela offers a comprehensive innovative portfolio of feeding solutions. For example special feeding devices for individual requirements and Calmita, which aims to be the new standard feeding solution, designed to support the neonate's natural feeding behaviour. Calmita is for hospitalised newborns in the NICU and maternity ward who are able to generate sufficient vacuum but unable to be breastfed for any reason.

Disposable hospital feeding solution



CALMITA STARTER



Calmita is a research-based hospital feeding solution that allows neonates to train and apply their individual and natural sucking behaviour. The integrated vacuum-controlled valve allows the infant to decide when to drink and when to pause. Milk flows when the infant achieves a certain vacuum. The neonate creates its own sucking rhythm, thereby efficiently removing just the right amount of milk at an individually suitable pace. This rhythm, as during breastfeeding, should enable maintenance of good oxygen saturation levels and a regular heart rate due to the ability to suck, swallow, pause and breathe whilst feeding¹⁶. Calmita's vacuum-controlled milk flow assists stability, resulting in relaxed and calm feeding – even if not at the breast.

Two versions – different threshold levels

Calmita is available in two versions in which the threshold levels of the vacuum-controlled valve are different. These levels reflect the infant's oral feeding development and offer the possibility of training the feeding behaviour of the neonate in such a way that an incremental build-up of skills can be achieved. Depending on the capacity of the neonate to generate intraoral vacuum, the suitable Calmita version should be used.

Recent research with hospitalised preterm infants feeding from Calmita, rather than a conventional teat, has shown the following benefits:

- ✓ Earlier discharge home¹⁹
- ✓ Natural feeding behaviour¹⁸
- ✓ Increased breastfeeding in the hospital¹⁹



CALMITA ADVANCED



- ✓ Ready-to-Use and EO sterile
- ✓ Individually packed and designed for single use
- ✓ Supports and protects breastfeeding



Conventional hospital teat



DISPOSABLE HOSPITAL TEAT

- ✔ Designed for single use only
- ✔ Can be used without prior cleaning
- ✔ Available with slow and medium flow



REUSABLE HOSPITAL TEAT

- ✔ Suitable for autoclaving
- ✔ Slow flow for preterm infants
- ✔ Medium flow for term infants

Special feeding devices



SPECIALNEEDS® FEEDER

- ✔ Designed for special circumstances that hinder or preclude the infant from creating vacuum
- ✔ Allows the infant to use compression to extract milk
- ✔ Easy control of the milk flow to suit the infant's abilities and efforts
- ✔ Sensitive to the weakest feeding effort
- ✔ One-way valve prevents air from entering the teat
- ✔ Available in two sizes



SOFTCUP™ ADVANCED CUP FEEDER

- ✔ Ideal alternative for infants who cannot be fed at the breast
- ✔ Soft, spoon-shaped mouthpiece for gentle feeding
- ✔ Special design prevents spillage of liquid
- ✔ NEW: curved bottom to minimise loss of milk



BABY CUP

- ✔ Short-term feeding of human milk, supplements or medication
- ✔ Precise increments on the cup to control and track the amount of liquid fed
- ✔ Reusable and cost-effective



breast milk for everyone



SUPPLEMENTAL NURSING SYSTEM (SNS)

- ✔ Enables breastfeeding when it would otherwise not be possible
- ✔ Excellent partner for supporting skin-to-skin contact
- ✔ Help stimulate mother's milk supply through direct sucking at the breast
- ✔ To feed adopted infants at the breast
- ✔ For infants with a weak suck
- ✔ Appropriate for all well-dissolved nutritional feeds and human milk



FINGERFEEDER

- ✔ Encourages the baby's natural sucking behaviour
- ✔ Early exposure of mothers own colostrum
- ✔ For infants that require small amounts of supplements or medication
- ✔ Soft silicone material for gentle feeding experience



Everything for breast care

When mothers start breastfeeding, they often need a little extra support. Medela's breast care products give mothers gentle and practical comfort to overcome these challenges.



HYDROGEL PADS

Sterile & individually wrapped

- ✔ Instant relief for sore and cracked nipples
- ✔ Dermatologically tested
- ✔ Moist wound care



PURELAN™

100% pure lanolin without additives

- ✔ Very soothing and prevents the nipple skin from drying
- ✔ No need to remove before breastfeeding



REUSABLE CONTACT™ NIPPLE SHIELDS

Single-user product

- ✔ Protect sore or cracked nipples during breastfeeding
- ✔ Special shape to promote skin to skin
- ✔ 3 different sizes (S, M, L)
- ✔ Convenient storage box available separately

	Hydrogel Pads	PureLan	Contact Nipple Shields	Disposable Nursing Pads	Milk Collection Shells
Nipple / Breast care	●				
Sensitive nipples		●			
Dry nipples		●			
Sore nipples	●		●		
Cracked nipples	●		●		
Flat nipples			●		
Inverted nipples			●		
Milk leakage					
Minimal				●	
Moderate				●	●
Excessive				●	●
During breastfeeding				●	●

Key

- essential
- beneficial



practical mother care



DISPOSABLE NURSING PADS

Single-use product

- ✔ Super absorbent and discreet
- ✔ Soft lining for comfortable feeling on skin
- ✔ Contoured shape for discretion



MILK COLLECTION SHELLS

Single-user product

- ✔ Can be worn under the bra
- ✔ Soft flexible silicone membrane
- ✔ Spout for convenient and clean milk disposal



Blue light for a healthy start in life

Neonates with hyperbilirubinaemia need more than just phototherapy treatment – they also need to be close to their mother. The BiliBed phototherapy system allows mothers and infants to be together day and night. This frees up hospital staff for other duties.



BILIBED® PHOTOTHERAPY SYSTEM

For treatment of neonatal hyperbilirubinaemia

- ✔ Infant-friendly treatment in mother's room to support breastfeeding
- ✔ Highly effective due to the short distance from the light source
- ✔ No eye protection needed as the infant is wrapped in a soft Bilicombi blanket
- ✔ Easy to use
- ✔ Low cost and efficient to run

ACCESSORIES:

- | disposable or washable Bilicombi
- | carrying bag



Expertise brought to you

Healthcare professionals know that products are only one part of the equation to successful breastfeeding in the hospital. It is as important for all stakeholders to receive consistent and accurate information in order to:

- I achieve full commitment to support human milk use and breastfeeding by all staff and parents
- I support evidence-based decision making
- I develop efficient and effective best practices for human milk handling and feeding

Medela works together with experts around the world to tackle and remove the barriers to the use of human milk and breastfeeding in the hospital. Beyond direct support of various basic and clinical research projects, Medela captures and summarises existing knowledge on the various challenges and disseminates this knowledge through different materials, channels and events.



RESEARCH REVIEWS

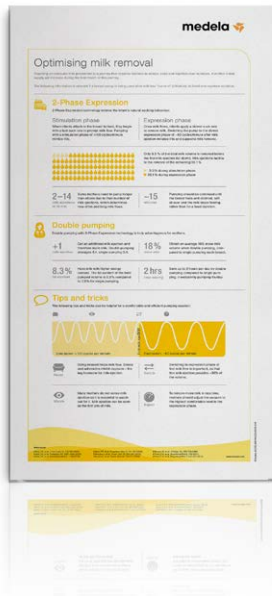
Comprehensive examination of published literature has been carried out. The resulting reviews highlight up-to-date and evidence-based findings on:

- I methods to support human milk feeding and breastfeeding in the NICU.
- I procedures to support the development of comprehensive and standardised logistical processes for human milk handling in the NICU.
- I measures to support safe and hygienic human milk management in the NICU.



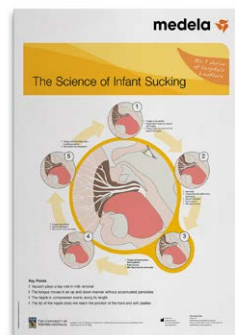
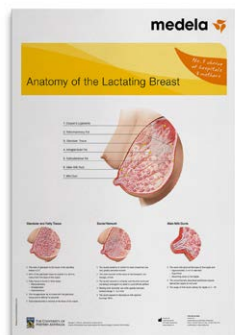
STUDY ABSTRACT PAPERS

The study abstract papers provide the scientific and clinical context to specific process and product innovations. By summarising, analysing and explaining the clinical research, they help to set the right expectations when implementing a new procedure or technology.



INFOGRAPHICS

Infographics take a large amount of information and then condense it into a combination of images, text and numbers. This allows viewers to rapidly grasp the essential insights the data contains. The visual representations of data sets and instructive materials are a quick way for audiences of all levels to learn about a topic.








POSTERS AND DVDS

Medela supports numerous research projects. The most significant outcomes of these projects are described and visualised through posters and DVDs. These include topics such as the science of infant sucking and breast milk removal.

Further solutions after discharge

When mothers leave the well-protected professional hospital environment and step into the outside world to begin a new life with their infant, they continue to rely on professional support to make breastfeeding as safe and as easy as possible. Medela has a broad range of breast pumps and breastfeeding accessories for home use and offers a full range of products to pump, feed, store and manage breast milk. The unique research-based products help mothers feed breast milk to their babies. The Medela breast pumps, breast care products and accessories can be bought in pharmacies or shops selling baby goods.

- Pumping 
- Collecting 
- Breast milk management 
- Feeding 
- Breast care 



FREESTYLE®

One of the world's smallest double electric breast pumps

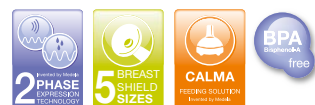
- ✓ Research-based 2-Phase Expression technology
- ✓ Double pumping helps establish and maintain milk supply
- ✓ Saves precious time



HARMONY™

Manual breast pump with research-based 2-Phase Expression technology

- ✓ Feels like baby
- ✓ Most convenient and comfortable
- ✓ Ideal for occasional pumping
- ✓ Small, compact, easy to use



CALMA

Breast milk feeding solution

- ✓ Helps babies maintain natural feeding behaviour as learned at the breast
- ✓ Babies can drink, breathe and pause regularly
- ✓ Supports an easy transition from breast to Calma and back



QUICK CLEAN MICROWAVE BAG

To disinfect breastfeeding accessories

- ✓ Disinfection takes approximately three minutes
- ✓ Steam treatment kills 99.9% of the most harmful germs and bacteria
- ✓ Easy to use – disinfect in just three easy steps



PUMP & SAVE™ BREAST MILK BAGS

Simple storage

- ✓ Bags to collect breast milk
- ✓ Space-saving design for fridge or freezer
- ✓ Designated labelling area



CITYSTYLE™ AND COOLER BAG

To transport breast milk

- ✓ Bag for hygienic and discreet transport of breast milk and breast pumps
- ✓ Keeps expressed breast milk cool

Pumping



2-Phase

Symphony®



Symphony Program Card
Symphony PLUS & Symphony Standard



Collecting



Breast milk bottles

Disposable Bottles
30, 80, 150, 250 mL



Reusable Bottles
80, 150 mL



Breast shields

PersonalFit™
Breast shield S, M, L, XL and XXL



One-Day Pump Sets

Symphony®
M, L or XL



Lactina®
M, L or XL



Reusable Pump Sets

Symphony®
Hospital Multibox (20)
Pump Set 150 mL
PersonalFit™
M, L or XL



Breast milk management



Warming/Thawing

Calesca



Disposable Insert for Calesca



Feeding



Feeding devices

Calmita
Starter/Advanced



Disposable Hospital Teat
Standard/Premature



Reusable Hospital Teat
S or M



Special feeding devices

SpecialNeeds®
Feeder 150 mL



SoftCup™
Advanced Cup
Feeder 80 mL



FingerFeeder



Baby Cup



Supplemental
Nursing System™



Breast care



Milk leakage

Disposable
Nursing Pads



Washable Bra
Pads



Milk Collec-
tion Shells



Breast & nipple problems

Contact™ Nipple
Shields S, M or L



PureLan™



Hydrogel Pads



Phototherapy



BiliBed®



Washable
Bilicombi™



Disposable
Bilicombi™



This product overview is not exhaustive. For further information about Medela products, please visit www.medela.com.

References

- Vorbach,C., Capecchi,M.R., & Penninger,J.M. Evolution of the mammary gland from the innate immune system? *Bioessays* 28, 606-616 (2006).
- Hassiotou,F. et al. Maternal and infant infections stimulate a rapid leukocyte response in breastmilk. *Clin. Transl. Immunology* 2, e3 (2013).
- Alsaweed,M. et al. Human milk microRNA and total RNA differ depending on milk fractionation. *Journal of Cellular Biochemistry* . doi:10.1002/jcb.25207, (2015).
- Hassiotou,F. et al. Breastmilk is a novel source of stem cells with multilineage differentiation potential. *Stem Cells* 30, 2164-2174 (2012).
- Cooper,A.P. *Anatomy of the Breast* (Longman, Orme, Green, Browne and Longmans, London, UK, 1840).
- Ramsay,D.T., Kent,J.C., Hartmann,R.A., & Hartmann,P.E. Anatomy of the lactating human breast redefined with ultrasound imaging. *J Anat* 206, 525-534 (2005).
- Ardran,G.M., KEMP,F.H., & Lind,J. A Cineradiographic Study of Breast Feeding. *Br J Radiol* 31, 156-162 (1958).
- Jacobs,L.A., Dickinson,J.E., Hart,P.D., Doherty,D.A., & Faulkner,S.J. Normal nipple position in term infants measured on breastfeeding ultrasound. *J Hum Lact.* 23, 52-59 (2007).
- Woolridge,M.W. The 'anatomy' of infant sucking. *Midwifery* 2, 164-171 (1986).
- Geddes,D.T., Kent,J.C., Mitoulas,L.R., & Hartmann,P.E. Tongue movement and intra-oral vacuum in breastfeeding infants. *Early Hum Dev* 84, 471-477 (2008).
- Elad,D. et al. Biomechanics of milk extraction during breast-feeding. *Proc Natl Acad Sci USA* 111, 5230-5235 (2014).
- Sakalidis,V.S. et al. Longitudinal changes in suck-swallow-breathe, oxygen saturation, and heart rate patterns in term breastfeeding infants. *J Hum Lact* 29, 236-245 (2013).
- Mizuno,K. & Ueda,A. Changes in sucking performance from nonnutritive sucking to nutritive sucking during breast- and bottle-feeding. *Pediatr Res* 59, 728-731 (2006).
- Taki,M. et al. Maturational changes in the feeding behaviour of infants - a comparison between breast-feeding and bottle-feeding. *Acta Paediatr* 99, 67 (2010).
- Geddes,D.T. et al. Tongue movement and intra-oral vacuum of term infants during breastfeeding and feeding from an experimental teat that released milk under vacuum only. *Early Hum Dev* 88, 443-449 (2012).
- Sakalidis,V.S. et al. Oxygen saturation and suck-swallow-breathe coordination of term infants during breastfeeding and feeding from a teat releasing milk only with vacuum. *Int J Pediatr* 2012, ID 130769 (2012).
- Segami,Y., Mizuno,K., Taki,M., & Itabashi,K. Perioral movements and sucking pattern during bottle feeding with a novel, experimental teat are similar to breast-feeding. *J Perinatol* 33, 319-323 (2013).
- Geddes, D.T., Nancarrow, K., Kok, C., Hepworth, A.R., & Simmer, K. Investigation of milk removal from the breast and a novel teat in preterm infants [poster]. 16th International Society for Research on Human Milk and Lactation Conference, 27 September – 1 October 2012, Trieste, Italy (2012).
- Simmer K., Kok,C., Nancarrow, K., Hepworth,A.R., & Geddes D.T. Novel feeding system to promote establishment of breastfeeds after preterm birth: a randomised controlled trial. *J Perinatol* (in press).
- Kent,J.C., Ramsay,D.T., Doherty,D., Larsson,M., & Hartmann,P.E. Response of breasts to different stimulation patterns of an electric breast pump. *J Hum Lact* 19, 179-186 (2003).
- Meier,P.P. et al. A comparison of the efficiency, efficacy, comfort, and convenience of two hospital-grade electric breast pumps for mothers of very low birthweight infants. *Breastfeed Med* 3, 141-150 (2008).
- Mitoulas,L., Lai,C.T., Gurrin,L.C., Larsson,M., & Hartmann,P.E. Effect of vacuum profile on breast milk expression using an electric breast pump. *J Hum Lact* 18, 353-360 (2002).
- Wolff,P.H. The serial organization of sucking in the young infant. *Pediatrics* 42, 943-956 (1968).
- Kulski,J.K. & Hartmann,P.E. Changes in human milk composition during the initiation of lactation. *Aust J Exp Biol Med Sci* 59, 101-114 (1981).
- Sakalidis,V.S. et al. Ultrasound imaging of infant sucking dynamics during the establishment of lactation. *J Hum Lact* 29, 205-213 (2013).
- Lucas,A. Pattern of milk flow in breast-fed infants. *Lancet* 2, 57-58 (1979).
- Drewett,R.F. & Woolridge,M. Sucking patterns of human babies on the breast. *Early Hum. Dev.* 3, 315-321 (1979).
- Santoro,W., Jr., Martinez,F.E., Ricco,R.G., & Jorge,S.M. Colostrum ingested during the first day of life by exclusively breastfed healthy newborn infants. *J Pediatr* 156, 29-32 (2010).
- Dollberg,S., Lahav,S., & Mimouni,F.B. A Comparison of Intakes of Breast-Fed and Bottle-Fed Infants during the First Two Days of Life. *J Am Coll Nutr* 20, 209-211 (2001).
- Dollberg,S. & Mimouni,F.B. Milk volume on the first day of life. *J Pediatr* 156, 1034-1035 (2010).
- Meier,P.P., Engstrom,J.L., Janes,J.E., Jegier,B.J., & Loera,F. Breast pump suction patterns that mimic the human infant during breastfeeding: Greater milk output in less time spent pumping for breast pump-dependent mothers with premature infants. *J Perinatol* 32, 103-110 (2012).
- Post,E.D.M. & Stam,G. More milk with irregular breastpump suction (Abstract A14). *Early Hum Dev* 89, S79 (2013).
- Torowicz,D.L., Seelhorst,A., Froh,E.B., & Spatz DL Human milk and breastfeeding outcomes in infants with congenital heart disease. *Breastfeed Med* 10, (2015).
- Kent,J.C. et al. Importance of vacuum for breastmilk expression. *Breastfeed Med* 3, 11-19 (2008).
- German Consulting Centre for Hospital Epidemiology and Infection Control (Deutsches Beratungszentrum für Hygiene). Conclusion of the Risk Assessment of the Production Method for Ready-to-Use Products (2014).
- EN ISO 11737-1: Sterilization of medical devices – Microbiological methods – Part 1: Determination of a population of microorganisms on products.
- EN ISO 11607-1: Packaging for terminally sterilized medical devices – Part 1: Requirements for materials, sterile barrier systems and packaging systems, EN ISO 11607-2: Packaging for terminally sterilized medical devices – Part 2: Validation requirements for forming, sealing and assembly processes, EN ISO 11135-1: Sterilization of health care products – Ethylene oxide – Part 1: Requirements for development, validation and routine control of a sterilization process for medical devices.
- Federal Ministry of Justice. German legislation for the quality of water intended for human consumption (Trinkwasserverordnung – TrinkwV 2001) (2001).
- EN ISO 14644-1 Cleanrooms and associated controlled environments – Part 1: Classification of air cleanliness by particle Concentration.

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