

## medela 😽 Medela Cares THE SCIENCE OF CARE™

## COMMITTED TO MAKING A DIFFERENCE



Community events such as the Pink Ribbon Walk to support breast cancer survivors strengthen our commitment to each other and the communities we serve.

Starting 2021 a pilot program focuses

on removing virgin plastic and

CO<sub>2</sub> emissions.

cardboard wherever possible and

replacing it with recycled solutions,

material waste and 51% reduction in

resulting in 30% reduction of packaging

Caring has always guided everything we do at Medela. As we have grown as a company and expanded globally, so has our desire to make a difference on a global scale. In alignment with the Ten Principles of the UNGC and the Sustainable Development Goals (SDGs), Medela Cares is focused on where we can have the greatest impact aligned with our business priorities.

## TO CHAMPION EQUITY, DIVERSITY AND INCLUSION AND FOSTER PERSONAL GROWTH AND WELLBEING

As a family-owned company, our passionate employees are the heart of our organization and the driving force behind everything we do. To ensure that we continue to foster an inclusive culture, Medela implemented training, mentoring and leadership programs. This genuine commitment to an inclusive culture was reflected in our annual employee survey with Medela scoring 7.88 out of 10 on fostering an inclusive work environment. Our benefits such as

equitable parental leave for birth or adoption and domestic partner benefits underline our commitment to nurturing an inclusive work culture.



## TO MINIMIZE OUR ENVIRONMENTAL IMPACT AND INNOVATE WITH SUSTAINABILITY IN MIND

We recognize the effect our business has on the world around us and the importance of innovation to advance sustainability and environmental stewardship. As our products and operations evolve, so does our responsibility to innovate with sustainability goals in mind. Our commitment to innovation is that every new product developed at Medela must improve the lives of our customers and contribute to our sustainability goals. Making this commitment a reality, Medela was honored with the International Sustainability and Carbon Certification (ISCC). The certification allows us to manufacture products and components using bio-based polypropylene (PP) material made from food waste instead of the commonly used fossil-based PP. The Contact Nipple Shield (CNS) is the first product to go live with bio-based material. Its storage box has been updated with bio-based material, resulting in a 13% reduction in plastic weight and an 89% reduction in CO<sub>2</sub> eq. per unit.

"WE ASPIRE TO HAVE A BROADER IMPACT, GOING BEYOND OUR DIRECT BUSINESS, TO SERVE THOSE AROUND US IN AREAS THAT ALIGN WITH OUR EXPERTISE AND OUR PASSION."

ANNETTE BRÜLS, CEO OF MEDELA WORLDWIDE.



## TO ADVANCE OUR MISSION GLOBALLY AND PARTNER WITH OTHERS TO FIGHT INFANT MORTALITY

Our commitment to social progress is a testament to our belief that only with the support and partnership of other like-minded organizations can we drive change to improve long-term health and societal outcomes. Through strategic partnerships, community engagement, and targeted initiatives, we are addressing infant and maternal mortality and malnutrition as well as increasing access to education and resources. To improve outcomes for mothers and infants and address health equity challenges like maternal health deserts, Medela partners with global, national and regional nonprofit organizations.



READ OUR FULL 2023 MEDELA CARES MPACT REPORT HERE:



Launched in 2021, the partnership with Laerdal Global Health supports midwives in developing countries in Sub-Saharan Africa Region with training, resources and products to perform vacuum-assisted deliveries for difficult



## Medela Cares

Our commitment to making a difference

## Standard double

The impact and benefits of simultaneous pumping

## Pump set hygiene

Best practice tips from a specialist

## **Buccal colostrum comes first!**

More colostrum for NICU infants

## Room to grow

What growing breasts need now

## Keep cool, Mum!

The next generation of maternity and nursing bras

## Human milk banks revisited

New EMBA webinars supported by Medela

## **Local News**

## **IMPRESSUM**

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## Standard benefits

The benefits of double pumping compared to single pumping – that is simultaneous breast expression instead of one breast followed by the other breast – are irrefutable. Scientific research in recent years has not only confirmed this, but has also uncovered further benefits that are of special relevance for pump-dependent mothers – at the hospital and at home. They include increased milk output, an additional milk ejection and milk with a higher energy content!

## INCREASED MILK OUTPUT

While studies previously described improvements in milk output when double pumping, what remained unclear was the possible mechanism driving this increased volume. This potential mechanism has since been elucidated in research. The study investigated mothers of term born

infants, who participated in two pumping sessions, in a randomised order. On one day, the mothers double pumped for 15 minutes and on the other day, they single pumped sequentially for 15 minutes. The unique approach of this study was that a milk flow rate measurement device was used to measure milk ejection. The observations scientists made were astonishing. As Dr. Danielle Prime states: "We saw, that double pumping is not only faster, but it is more effective in removing milk. It stimulates an additional milk ejection. This results in 18% more milk volume being pumped over a 15-minute pumping duration. Therefore more milk of higher fat content is removed, leading to better breast drainage and milk of a higher caloric value."



## Double pumping

Double pumping with 2-Phase Expression technology is truly advantageous for mothers.

+] milk ejection Get an additional milk ejection and therefore more milk. Double pumping averages 4.4, single pumping 3.4.1

8.3%

Have milk with higher energy content. The fat content of the total pumped volume is 8.3% compared to 7.3% for single pumping.

18%

Obtain on average 18% more milk volume when double pumping, compared to single pumping each breast.<sup>1</sup>

2 hrs Save up compar time saving 8x/day.

Save up to 2 hours per day by double pumping compared to single pumping, if exclusively pumping

THE HIGHER CALORIC VALUE OF BREAST MILK REMOVED

THROUGH DOUBLE PUMPING IS OF SPECIAL RELEVANCE FOR

PRETERM INFANTS WHOSE TINY STOMACH CAN ONLY

TAKE VERY SMALL VOLUMES OF MILK.





## ADDITIONAL MILK EJECTION

When milk ejections were measured during double and single pumping, it became clear why double pumping yielded more milk volume and drained the breast better: An additional milk ejection occurred during double pumping. The neuro-hormonal milk ejection reflex, with the key hormone oxytocin, is crucial for milk removal and maintenance of lactation. Milk is only available from the breast during milk ejections which are short, discrete increases in intra-ductal pressure, milk duct diameter and milk flow rate. Milk ejections occur in both breasts at the same time, with the total number of milk ejections ranging from 2 – 14 between mothers.<sup>2</sup> This explains why milk removal varies between mothers; some mothers will remove milk quickly while others will need a little more time. While there is variation between mothers, for an individual mother the pattern of milk ejection is very consistent over the first year of lactation.3

## HIGHER ENERGY CONTENT

After double pumping for 15 minutes, the fat content of the total amount of pumped milk was 8.3%, significantly higher than the 7.3% measured during single pumping.<sup>1</sup> This is important for several reasons: During breastfeeding/pumping, the fat content of the milk increases steadily. When milk has a higher fat content, it means that the breast has been drained better which is the case when double pumping. Good breast drainage in turn is known to be very important for maintaining and increasing milk supply. Pumping milk with a higher fat content is, of course, also a big benefit in itself and especially relevant for very fragile or preterm infants. The small stomach of preterm infants especially can only take very small volumes of milk, so it is essential to make sure that this milk is of high caloric value.

## 4 tips for optimising milk removal



Being relaxed helps milk flow. Stress and adrenaline inhibit oxytocin – the key hormone for milk ejection.<sup>4</sup>



Many mothers do not sense milk ejection so it is essential to watch out for it. Milk ejection can be seen as the first jets of milk.<sup>5</sup>



Switching to expression phase at first milk flow is important, as that first milk ejection provides ~36% of the volume.



To remove more milk in less time, mothers should adjust the vacuum to the highest comfortable level in the expression phase.

## References: 1 Prime DK et a. Breastfeed Med. 2012;7:442-4 2 Prime DK et al. Breastfeed Med 2011a; Vol 0(0); 1-6 3 Prime DK et al. Breastfeed Med 2011b; Vol. 6(4): 183-190 4 Newton M et al. J Pediatr. 1948;33:698-704. 5 Kent JC et al. J Hum Lact. 2003;19:179-186 6 Prime DK et al. Breastfeed Med. 2011;6:183. 7 Kent JC et al. Breastfeed Med. 2008;3:11-19.

# Standard hygiene

THE RISK OF MICROBIAL CONTAMINATION OF PUMP SETS INCREASES WITH DURATION OF USE.



When pumping breast milk for newborns, hygiene is of utmost importance. Dr. Veerle Cossey, hygiene specialist at UZ Leuven in Belgium, shares her experiences and makes a case for 24-hour pump sets.

## Which pump sets are most commonly used in your hospital and why?

We only use disposable ready-to-use pump sets throughout all wards. They are hygienic and microbiologically safe for 24 hours if handled correctly, and the mother can easily take care of them herself.

## So you also use ready-to-use sets on NICU?

We do – but for single use only. In the maternity and pediatric wards the pump sets are usually used for 24 hours. The mother rinses the breast-shield, connector and membrane under running water after each use and dries them with paper towels. She can then store the pump sets in a clean open container until next use. If they are visibly soiled and latest after 24 hours, the sets are replaced. But in the NICU we replace them after each pumping session. Same in Pediatrics by the way, if the babies are very fragile and/or immune supressed.

## What hygiene precautions do you give to mothers?

Before even talking about how to clean the pump sets, we stress hand and breast hygiene: Mothers must wash their hands thoroughly before preparing the sets for pumping. We instruct them to always use running water, liquid soap and paper towels. If they have to stay in bed, they should use hand sanitizer. We provide sanitizing gel with every pump unit. Breast hygiene is also important as

there are many microorganisms present around the nipple and areola. As few as possible should end up in the expressed breast milk so we recommend washing the breasts daily and cleaning the nipple and areola area before each pumping session with a wet paper towel.

## Any specific tips you give to mothers for handling the pump sets?

Always place the screw cap of the milk containers with the inside facing up. Never touch the inside of the containers or the screw caps! Same goes for the breast shields: Always hold them on the outside.

## If breast pump sets are used for longer than 24 hours, what kind of risks do you see in case there is no professional autoclaving or sterilizing?

The main risk is microbial contamination of the pump sets and, subsequently, the expressed breast milk. That risk increases with the duration of use and the number of pumping sessions. It derives from a number of potential sources such as milk residues remaining in the pump set, as well as the environment in which the pump set is stored between use. There is also the risk that a 24-hour pump set can be less effective over time and could result in reduced milk output. I would never recommend to use a ready-to-use set for more than 24 hours without professional autoclaving or sterilizing, no matter how carefully it is handled.

## Standard practice

The overall results obtained during double pumping are of course not superior to what a healthy infant is able to do during breastfeeding. However, double pumping – especially with the use of Initiation Technology – come very close to what the healthy baby is able to do when feeding

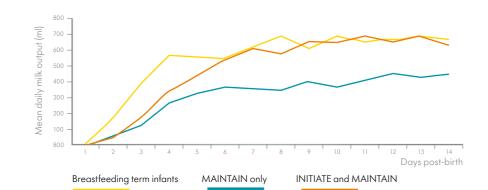
at the breast. Most significantly, outcomes are clearly superior to what is obtained when sequentially single pumping. All research therefore suggests that electric double pumping should be standard practice when breastfeeding is not yet possible.

## Don't hesitate, initiate!

Double pumping is even more effective when making full use of Symphony's two pumping programs:

- Using the INITIATE program of Symphony to activate lactation in the first few days after birth
- Using MAINTAIN to build and maintain a good milk supply after milk has come in

Research shows that the outcomes of both programs combined come close to those of breastfeeding infants.



Neville MC et al. Am J Clin Nutr. 1988; 48(6):1375–1386 Meier PP et al. J Perinatol. 2012; 32(2):103–110





STANDARD DOUBLE FOR AT HOME

Don't forget:

Symphony rental for best outcomes!

Double pumping is also highly recommended to continue

initiating and maintaining a pump-dependent mother's milk supply at home. Always recommend a double pump set for FOR MORE INFORMATION VISIT OUR SYMPHONY HUB:

## Buccal colostrum SHOULD ALWAYS BE THE FIRST FEED

Aniko Deierl, consultant neonatologist at the Imperial College NHS Healthcare Trust in London, and her team go for gold with their highly successful push for more colostrum availability in NICUs.

## **DECIDING METRICS:**





The "Colostrum Packs" Aniko Deierl and her team hand out stress, what a gift these first golden drops mean to the infant.

## Colostrum is liquid gold and should always be the infants first feed, especially on NICU. This is the strategic aim we have been trying to drive home for three years now.

When we started this QI-project in 2020 and measured where we stood, only 10 - 20% of NICU babies <34 weeks gestation received colostrum in the first 24 hours. At that time, colostrum within 24 hours was not part of our outcome measures so the low numbers came as a bit of a surprise and despite our breast milk feeding rate at discharge of around 80%, which is higher than the national average.

## SUSTAINABLE SUCCESSES

Our goal was to increase this number, aiming for a target of 80% of NICU babies (<34 weeks gestation) receiving colostrum in the first 24 hours within the next 12 months. The road there was not always easy, especially with the period with COVID which significantly negatively impacted the close relationship required for early colostrum expression with the mother. Still, we made significant progress: Numbers are variable each month, but for now, we are looking at 50 – 80% receiving colostrum within 24 hours of life. What we now realize is, that the sustainability of our success is the real challenge: We need to continue pushing to ensure that every day, every infant will have the opportunity to benefit from early colostrum. We

must ensure that premature babies (<34 weeks) receive buccal colostrum within the first six hours of birth, ideally as a first feed, and that early lactation is well established so that mothers can come to optimum volume and infants can continue to benefit from their mother's own milk.

## PUSHING THE LIQUID GOLD STANDARD

To achieve this goal, we implemented a new standard operating procedure and trained midwives and neonatal MDT team on it. We specifically purchased Medela Symphony breast pumps with INITIATE program for all our areas including the labour ward, so all mothers can start double pumping using the INITIATE program within two hours of delivery. We give bite-sized face-to-face training for midwives on our pumps regularly. We also make sure midwives give our new 'Liquid Gold Colostrum Packs' to mothers before or directly after delivery, including all accessories for double pumping, syringes, a pump auick card and colostrum information material. Neonatal doctors are instructed to include colostrum information when doing antenatal counselling and it is expected from the neonatal team to call the midwife and check that the first expression is happening within two hours when the baby is transferred to NICU. The sooner the neonatal nurses receive the collected colostrum. the earlier they can administer it orally.

## IT'S NOT NUTRITION – IT'S GUT PRIMING!

It is safe to give colostrum in small volumes (0,2-0,3ml) even in ventilated babies as it is absorbed by the oral mucosa. Enteral feeding should not be delayed beyond eight hours of life, but the infant profits greatly if buccal colostrum is the first feed. Placing drops of mother's milk onto the infant's oral mucosa is not nutrition - it's gut priming! We also saw an association between early colostrum and higher proportion of exclusive breast milk at 7 and 14 days post birth."

## OUR PRIMARY DRIVERS

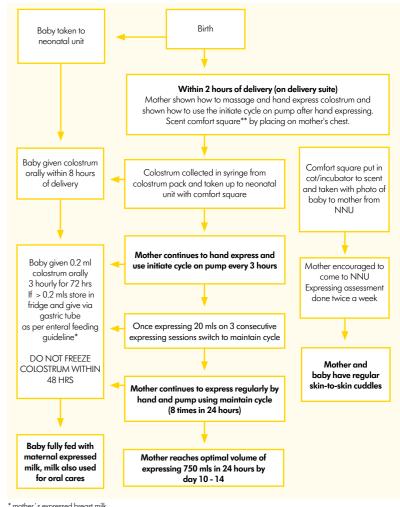
1) EDUCATION of the mother and the neonatal/maternity staff on the benefits of colostrum (ante/postnatally)

2) APPROPRIATE EQUIPMENT in all areas (labour ward, postnatal ward, NICU) to support early colostrum expression including our "Colostrum Packs" packs and Symphony breast pumps with Initiation Technology

3) SUPPORTING EARLY EXPRESSION of colostrum and early feeding of colostrum ideally within the first six hours of life

4) SUPPORTING LACTATION and the journey to suck feed during the NICU stay to achieve successful breastfeeding at the end

## Standard operating procedure at the Imperial College London



12 13

<sup>\*\*</sup>knitted, textured squares that are used to pick up the mother's scent, then are placed in the incubator with the infant

# ROOM to grow

## SUPPORTING BREASTS ON THEIR JOURNEY

The making of human milk is no less than a wonder of nature and the mother's breasts start preparing for this task from day one of her pregnancy. A process that comes with constant changes that require special care – also in terms of intimate apparel.

A mother's breastfeeding journey begins long before the baby is born. In fact, the perceptible changes within the breasts are often a first sign of pregnancy. Surging hormones and a shift in breast structure mean nipples and breasts may feel sensitive and tender from as early as three or four weeks. From around week 15 the new milk-producing cells in the breasts become active, and by around week 22 they start making milk. Making sure nothing disturbs this delicate process while also ensuring the mother can feel as comfortable as possible is now the challenge the mother's bras have to meet.

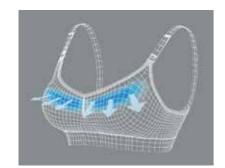
## **GROWING IN COMFORT**

Breasts can increase up to 46% in size from pre-pregnancy to birth<sup>1</sup>. By the time a mother's milk comes in, they are likely to be almost one-and-half times bigger than before she became pregnant. A bra that is too tight or has stiff wire for support not only feels uncomfortable but can block the milk ducts and cause engorgement. Most women then find a seamless style with wide straps in a soft, breathable fabric that stretches and grows with her breasts most comfortable. Her breasts may start to feel heavy or sore, so wearing a bra with good support can help avoid breast pain.



# KEEP COOL, MULLINGER AND AFTER

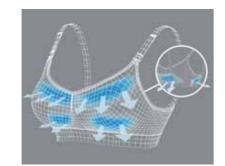
Many pregnant women experience increased body temperature, with more than 29% suffering from hot flashes<sup>1</sup> before and after delivery. This is why Medela's Keep Cool<sup>TM</sup> Bras use unique integrated breathing zones and a new quick dry technology to help balance body temperature and provide maximum comfort.





## Keep Cool™ Bra

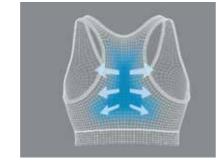
Soft, wireless and seamless, offering gentle to moderate support and two integrated breathing zones to help balance body temperature.





## Keep Cool Ultra™ Bra

Soft, wireless and seamless, boasting six integrated breathing zones for ultimate comfort and designed for moderate support. Removable perforated foam pads offer extra shape and protection.





## Keep Cool™ Sleep Bra

Designed for fresher, cooler, comfortable nights with a full racerback breathing zone, gentle support and crossover fit for easy feeding during the night.



QUICK DRY

FULL DROP DOWN KEEP COOL™ &

CROSSOVER FOR EASY FEEDING KEEP COOL SLEEPT EASY ADJUSTABLE STRAPS KEEP COOL

REMOVABLE PERFORATED FOAM PADS KEEP COOLT









Hypoallergenic, dermatologically tested – and with 25% less plastic in the



TEMPERATURE





ULTIMATE SUPPORT BEFORE AND AFTER DELIVERY



Human milk banks play a crucial role in ensuring that human milk is provided safely and in the best possible quality. Join these new webinars and find out how this can work in practice.





For free live sessions and recordings, all conducted in English. medela.com/webinars



## Operational Models of Milk Banking

Thursday, 21 March 2024, 3 pm – 4:40 pm

Get on overview of the different operational models of milk banking in Europe. Some countries, like Germany and Israel, have realized specific models that have proved to be successful. Join Daniel Klotz and Sharron Bransburg-Zabary to learn from their experiences.



PD Dr. Daniel Klotz
EMBA Board Member,
Neonatology and
Paediatric ICU Freiburg
University Medical
Centre, Germany



Dr. Sharron Bransburg-Zabary, IBCLC Director National Human Milk Bank of Israel of Magen David

Adom, Israel

## More human milk in the Neonatal Unit: yes, but how? Leadership aspects in driving practice change.

Thursday, 27 June 2024, 3 pm – 4:40 pm

Get an overview of practical solutions to increase human milk feeding in the neonatal unit and learn from a best case how to increase the availability of donor milk & mother's own milk in late preterm infants. Moderated by EMBA president Prof. Sertac Arslanoglu.



Prof. Sven Wellmann
Head of Neonatology,
University Perinatal Centre
Regensburg, Hospital
St. Hedwig of the Order
of St. John, Germany



Prof. Miguel Sáenz de Pipaón Neonatology, La Paz Hospital-Universidad Autónoma de Madrid, Spain

## Update on virus transmission through human milk and regulation of Donor Human Milk in Europe

Tuesday, 8 October 2024, 3 pm – 4:40 pm Learn from Prof. Lembo about the infant's immune system and the protective factors in breastmilk, which can play an important role in preventing infections. EMBA president Prof. Arslanoglu will discuss recent activities for a common regulatory framework of donor human milk in Europe.



Prof. David Lembo
Head of the Laboratory
of Molecular Virology
and Antiviral Research,
University, Turin, Italy



Prof. Sertac
Arslanoglu
Head of the Division of
Neonatology at Istanbul
Medeniyet University,
Turkey

Supplementation methods that preserve the breastfeeding relationship are always the best choice. That is why the new Medela Supplemental Nursing System (SNS) is designed for easy use and comfort, facilitating bonding between mother and infant.

medela 😽

**Supplemental Nursing System** 

Protecting

bond

that precious

## BY USING SNS, ALL THE ADVANTAGES OF BREASTFEEDING FOR MOTHER AND CHILD ARE MAINTAINED. IT

- facilitates skin-to-skin contact for a healthly microbiome and a close bond between mother and infant
- helps to stimulate the milk supply through baby's direct sucking at the breast
- supports infant's oral development and training of sucking skills
- provides milk supplementation without bottles and teats.

  For an experience as close to breastfeeding as it gets.
- Supports adoptive, surrogate, same sex, transgender and non-binary parents to create a breastfeeding /chestfeeding experience

For more information just scan the code





## Advanced system

- Anti-leak TwistLok Lid to prevent milk loss
- Advanced venting system to ensure consistent milk flow
- Soft silicone tubing



## Easy to use

- Versatile container and lid, for easy storage, transport and feeding
- Clip to fasten device to nursing bra, top or pillow
- Simple "on/off" flow control



## Easy to clean

Dedicated cleaning aid to help effectively clean the tube over repeated daily use



Reusable



Swiss design



18



## We love to share!

The latest lacation research, relevant breastfeeding studies, best cases from clinical practice and, of course, all there is to know about how to best use our products. So you have everything you need to help mothers achieve their breastfeeding goals.

## **NEWSLETTER**



Subscribe now for the latest news from the world of breastfeeding and lactation research, exclusive events, best cases from all over Europe, innovative technologies and exciting product development.



## **SYMPHONY HUB**

Our digital support system on how to use our hospital and rental pump, Symphony. With simple step-by-step instructions, helpful videos, links and visuals, all optimized for mobile use.



## **MEDELA UNIVERSITY**

Sign up for free online courses and on-demand talks on breastfeeding and lactation, held by globally renowned scientists. CPD points available!



ANY QUESTIONS, FEEDBACK OR THOUGHTS YOU WOULD LIKE TO SHARE? WE ARE HAPPY TO HEAR FROM YOU!

Contact us at info@medela.dk

