

Mammals: Feeding their Babies Since the Beginning of Time!



Presenter's Notes

Mammals: Feeding their Babies Since the Beginning of Time!

Purpose:

Mammals: Feeding their Babies Since the Beginning of Time:

- Provides information about how mammal's, including women make milk that is specifically designed for their baby's needs
- Provides information about newborn growth patterns and related mothering behaviors.

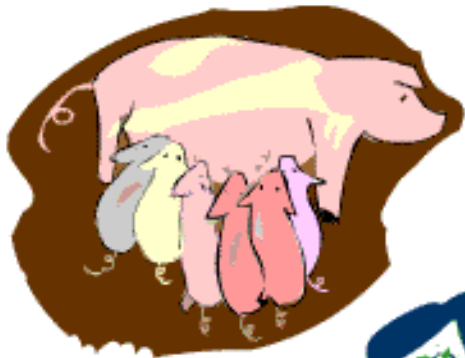
This resource can be used as a breastfeeding nugget or mini topic within a Healthy Baby session.

Resources/handouts available at the end the Breastfeeding Activities binder.

MAMMALS



- have hair or fur
- give birth to 'live young'.
- mammal mothers nurse their young with milk.
- have lungs and need air to breathe.



- mammals that live on land have 4 legs, and ears that stick out.
- warm-blooded



Mammals

Ask participants: What things do all mammals have in common?

Answer: All mammals have fur or hair, give birth to live young, have lungs and need air to breath, are warm blooded, have four limbs if they live on land, and **feed their babies milk from their breasts.**

Even though mammals have a lot in common they do have some different pregnancy, birthing and breastfeeding experiences.

Hooded Seal



Extreme breastfeeding



**22
Litres**



Hooded Seal – Extreme Breastfeeding

- The Hooded Seal is an extreme breasterfeeder.
- She makes about **22 litres** of milk a day!
- Her pups are born in an exceptionally advanced developmental state, and are weaned after just **four** days, the shortest lactation period known for any mammal.

Seal pups double in size in just 4 days!



Seal pups double in size in just 4 days!

- It may seem unbelievable that the mother seal power feeds her baby, which is born at about 55 lbs and weighs 110-120 lbs in 4 days. It all part of ensuring her baby's survival.
- Seal pups are born when the ice is beginning to melt and break up. A sudden storm might send pieces crashing together, crushing moms and pups. Or an ice floe might split and mom and pups could be separated.
- The mother seal's job is to make sure her baby has enough body fat to be protected from the deep sea cold and survive alone drifting on ice with little to no food for weeks.
- Her amazing breast milk is perfectly designed for this...it is super high fat milk of 56%-71% which is equivalent to the fat in butter.

**The pup learns to eat solid food on his own
within weeks of being born**



The pup learns to eat solid food on his own within weeks of being born

- Eventually, the pup will slip off the ice floe into the water, where it must teach itself to swim, dive and forage for food.

How long is it recommended that human babies breastfeed? *Answer on next page*

Nowak, R.M. (1999) *Walker's Mammals of the World*. Johns Hopkins University Press, Baltimore, Maryland.

Kovacs, K.M. (2002) Hooded Seal – *Cystophora cristata*. In: Perrin, W.F., Würsig, B. and Thewissen, J.G.M. (Eds) *Encyclopedia of Marine Mammals*. Academic Press, London.

If the hooded seal has the shortest breastfeeding experience, what mammal do you think has the longest?



If the hooded seal has the shortest breastfeeding experience, what mammal do you think has the longest?

- Orangutans breastfeed, ride on their mother's body and breastfeed for seven years. This is one of the longest nursing periods of any mammal.

Ask participants: Which mammal do you think humans are most like?

The black bear breastfeeds her cubs for 2 years



The black bear breastfeeds her cubs for 2 years

- The World Health Organization recommends exclusive breastfeeding for the first 6 months of life and continued breastfeeding with complimentary foods for 2 years or longer.
- Black Bears are most similar in breastfeeding duration rates with humans. While in North America, breastfeeding duration rates may be lower, worldwide breastfeeding duration is 2-3 years on average.

The black bear sleeps right through her pregnancy, child birth and first three months of lactation



The black bear sleeps right through her pregnancy, child birth and first three months of lactation

- Can you believe the black bear sleeps right through her pregnancy, child birth and first three months of lactation?
- Unlike the black bear...we don't get to sleep through pregnancy, child birth or the first few months. .. but most women wish they could get more sleep.

Ask participants:

What gets in the way of rest and sleep when you are pregnant or after the baby?

Answers: Some things that cause reduced sleep are: discomforts of pregnancy, feeding baby, postpartum recovery, visitors, laundry and other housework, worrying about the baby etc.

Ask Participants: What are some strategies you can use to get more sleep when you have your baby?

**Bears mate once a year in June or July but...
the egg doesn't implant until November and then she
gives birth in January to a 1 pound baby**



**Bears mate once a year in June or July but...
the egg doesn't implant until November and then she
gives birth in January to a 1 pound baby**

Black Bear:

- Bears mate once a year in June or July but... the fertilized egg does not implant in the uterus until she hibernates in November and then she gives birth in January.
- The black bear is only pregnant for only 6-8 weeks which explains why a 250 pound black bear gives birth to such a small bay, only about a 1 pound.
- Childbirth for the black bear occurs during hibernation, which means mama bear may be sleeping when she delivers!

The Human:

- Did you know that when women get pregnant, the egg and the sperm meet in the fallopian tube and it takes only 5-7 days for the egg to implant however, we are then pregnant for 9 months or approximately 40 weeks.

The Seal:

- The 700 pound seal is pregnant for almost a year giving birth to a 60 pound baby.
- She mates **right** after finishing breastfeeding. Apparently during her 4 days of breastfeeding and mothering, male seals will dote on her knowing their chances of mating are right around the corner.

The small cubs only eat about a cup of milk a day for the first 3 months



The small cubs only eat about a cup of milk a day for the first 3 months

- Because the mother bear is hibernating and not eating or drinking, her body uses her fat reserves to make a thick milk with concentrated protein and fat (about 25% fat...whipping cream)

Cubs are 3-5 pounds when they emerge from hibernation at 3 months



Cubs are 3-5 pounds when they emerge from hibernation at 3 months

- The mother bear's milk is perfect for her babies who are growing slowly.
- They are still about half the size of an average newborn at 3 months old!

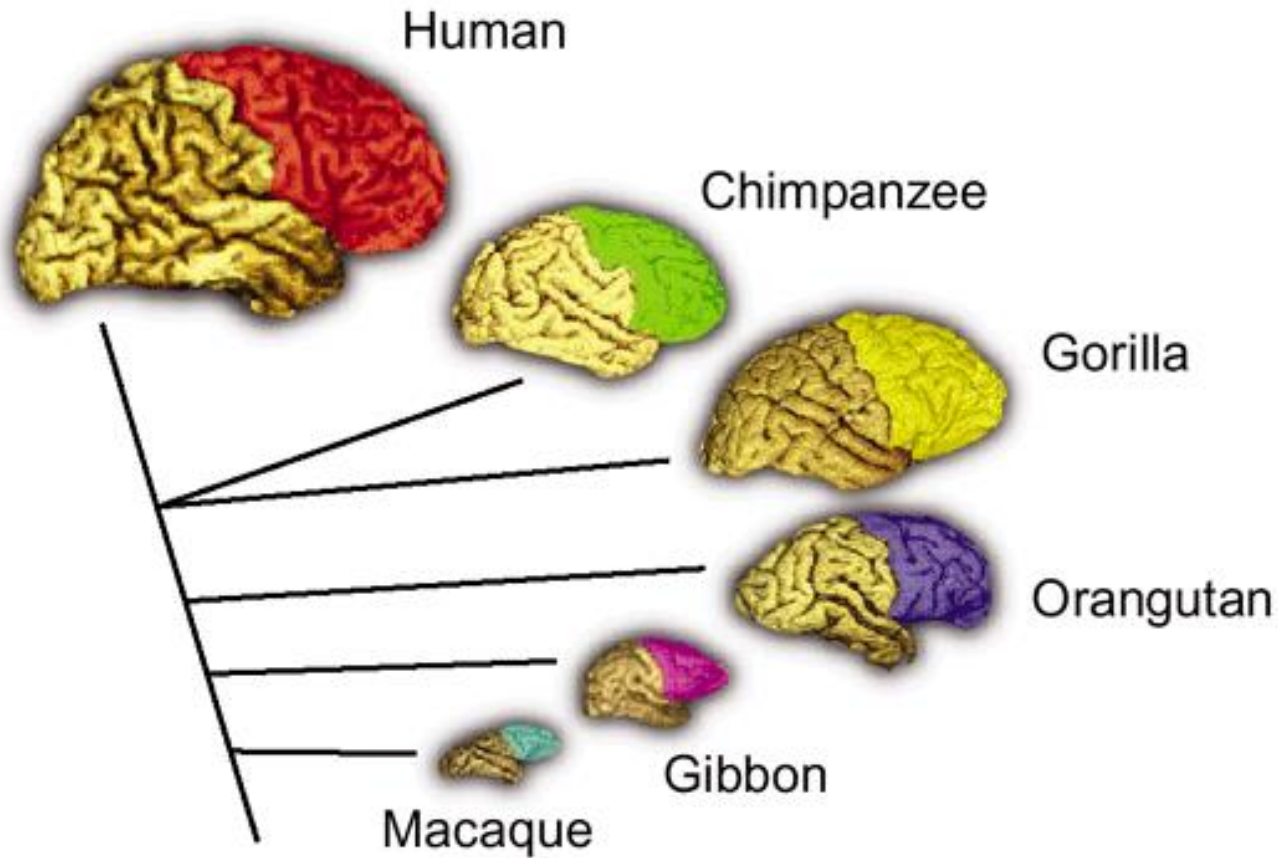
Cubs continue to breastfeed and start to feed on soft grasses around 6 months when their teeth emerge



Cubs continue to breastfeed and start to feed on soft grasses around 6 months when their teeth emerge

- Just like babies, bear cubs get everything they need from their mother's breast milk until they are about 6 months old and start to eat soft foods.
- Their introduction to solids is similar to what is recommended for human babies.
- Bears encourage their cubs to explore different tastes and textures first by licking different plants. As they develop teeth and swallowing skills, bear cubs work their way to chewing.
- Mama bears can't nag or force feed, all they can do is keep showing their cubs what to do, trying new plants and trust their babies to imitate them.

What is unique about humans?



What is unique about humans?

- Humans have the largest brain of all mammals; however a human baby is still one of the most dependent mammals at the time of birth.
- Human baby's body systems are very immature at birth and breastmilk is perfectly designed for healthy:
 - Brain development
 - Physical growth and development
 - Immunity
 - Metabolism

Human Breastmilk



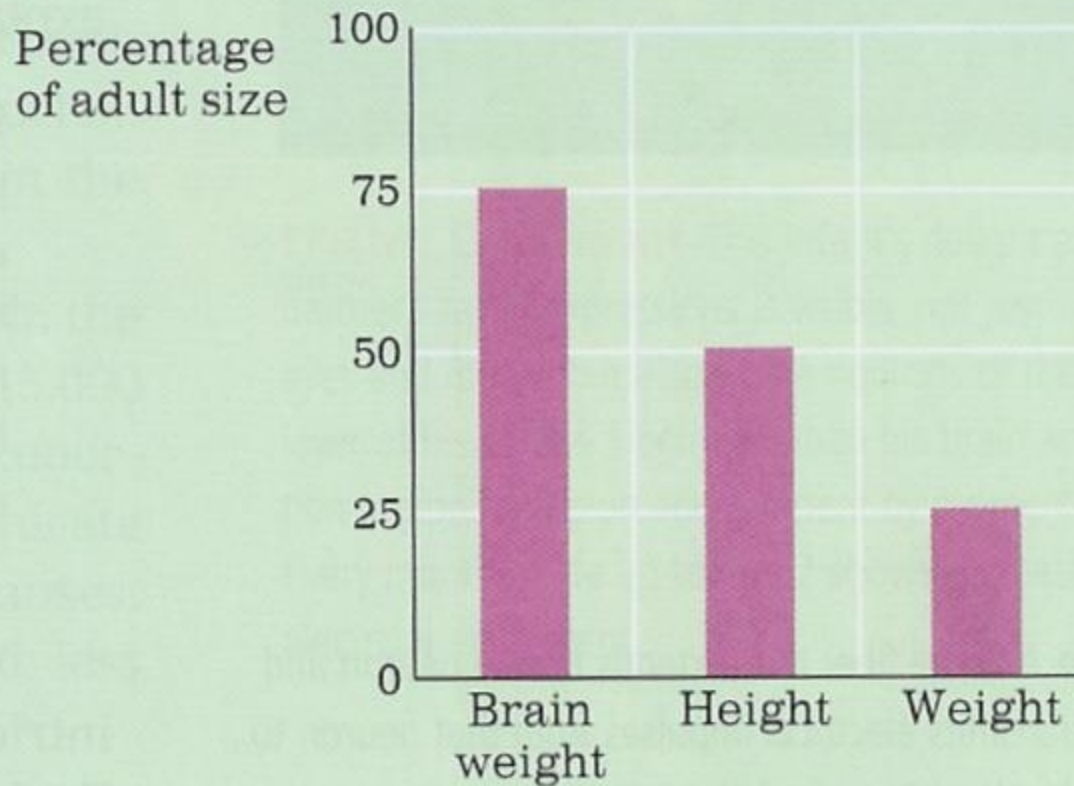
Human Breastmilk

- Your breastmilk is specially designed for your baby.
- Because the human brain is so immature at birth the milk has special fats to help the brain grow and develop.
- Human babies have a stomach so small at birth that it is the size of a marble or cherry. That is why babies need to feed often.
- The first milk your body will make is colostrum which is so concentrated babies only need a teaspoon at a time.
- Producing colostrum keeps are breasts soft and less full and gives baby time to learn to latch on before the milk comes in and our breasts become larger, harder, fuller.
- Much nicer than the hooded seal who needs to pump out 22 litres a day!

Mother Nature is brilliant!

Human Breastmilk

In Just the First Two Years ...



Human Breastmilk

- The human brain is the fastest growing part of a babies body.
- It reaches half of its adult size by 9 months and is nearly three-quarters of its adult size by two years of age.
- Human milk is designed to grow the human brain quickly and the body slowly.

Among mammals the amount of protein in the milk is a determinant of early weight gain



Among mammals the amount of protein in the milk is a determinant of early weight gain

- A calf doubles his birth weight **4 times** faster than a human baby.
- Large animals need to grow their bodies quickly, not their brains.
- They need to be able to get up and walk right away for survival as opposed to human babies who are not expected to walk until about one year. For example: a zebra calf would be a hyena's lunch if he can't get up and run.

Humans have the lowest protein of all mammalian milk

	Human	Mare	Cow	Sheep	Goat
Albumin	1,5	2,1	3,5	5,2	3,8
Fat	4,0	1,3	3,4	6,2	4,1
Milk sugar	6,9	6,3	4,6	4,2	4,4
Residues	0,3	0,4	0,8	0,9	1,9

Humans have the lowest protein of all mammalian milk

Ask participants: How many of you have heard that goat's milk is closer to human milk?

- Based on the chart we can see it is not close.

Ask participants: Why do they recommend that you do not give cow's milk or goat's milk before 1 year?

- To grow strong muscles, animals like goats and cows make milk high in protein. There is too much protein in cow's and goat's milk for the human baby's immature kidneys to handle.
- There is not enough iron in goat or cow's milk for a growing baby.

with Colostrum, begins immunisation-Mother Nature at her best

IMMUNISATION SCHEDULE

Sl.#	Vaccine Name	Time of Administration	Due Date	Given On
01.	Colostrum (First Feed)	at birth	✓	
02.	BCG	birth - 7 days	10.6.04	✓
03.	OPV + Hepatitis-B 1st Dose	birth - 7 days	9.6.04	✓
04.	Hepatitis B 2nd Dose + HIB + OPV + DPT 1st Dose	6 weeks	18.7.04	✓ 17/7/04
05.	HIB + OPV + DPT 2nd Dose	10 weeks	18.8.04	12/8/04
06.	HIB + OPV + DPT 3rd Dose	14 weeks	18.9.04	
07.	Hepatitis B 3rd Dose	6 Months *	9.12.04	11/12/04
08.	Measles Vaccine.	9 Months completion	6.3.05	5/3/05
09.	MMR	15 Months		10/9/05
10.	HIB + DPT + OPV - 1st Booster	18 Months ✓	7/12/05	17/12/05
11.	Typhoid Vaccine **	2 years		17/6/06
12.	OPV + DPT - 2nd Booster	4 years		21/2/06
13.	TT	10 years		
14.	Rubella Vaccine	10 years		

* Depends on earlier doses ** Booster once in 3 years

*OPTIONAL VACCINES (after 2 years)

1.	* Hepatitis A - 1st Dose	2 years		
2.	* Hepatitis A - 2nd Dose			
3.	* Chicken Pox Vaccine	17 - 1 - 06		

* Immunisation is given as per the recommendations of the Indian Academy of Paediatrics and the World Health Organisation - (W.H.O) - Guidelines

FOR GIRLS GIVE RUBELLA VACCINATION AT 10 YRS TO PREVENT MALFORMATIONS IN THEIR UNBORN CHILDREN

PULSE POLIO IS A MUST FOR ALL BABIES UPTO 5 YEARS

ANTI RABIES VACCINE

IS

With colostrum begins immunization

Mother Nature at her best

- Our breastmilk contains many special things not found in formula or any other food source.
- Breastmilk is designed to help mature body systems; our immune system is just one example.
- Some countries recognize the importance of breastmilk in the development of a baby's immune system and includes colostrum as the babies first vaccine.



Summary...

- While we may have many things in common with other mammals, we also have many differences.
- Our body makes milk especially designed to support the healthy growth and development of our babies.
- Breastmilk and breastfeeding is pretty amazing!

Where Can I Get Help?

“Mammals: Feeding their Babies Since the Beginning of Time!”

has been developed and produced in partnership by
Healthy Child Manitoba and Youville Centre

For more information about breastfeeding or breastfeeding support , please
contact:

Breastfeeding Hotline: 24 hours a day 7 days a week (204) 788-8667

La Leche League: Phone support and Groups (204) 257-3509

Breastfeeding Clinics and Parent Support Groups: Make an appointment with
a lactation consultant or drop in breastfeeding counsellor led support group

Or

call your local public health office or healthcare provider.

The information in this presentation kit is not meant to replace physician advice.



This kit was developed in in January 2016
It is not intended as a handout for program participants

