



The first  
**1000**  
**Days**

An important window  
of opportunity, which will impact  
lifelong health

**For Healthcare Professionals only**



# *Learning Objectives*

- ♥ **What are First 1000 Days?**
- ♥ **Why are First 1000 days so important?**
- ♥ **Nutrition at each stage of First 1000 Days  
(Pregnancy, Infancy and Toddlerhood)**
- ♥ **Few Q&A's**



## ***Did You Know That The Risk Of Developing:***

- ✓ **Diabetes**
  - ✓ **High Blood Pressure**
  - ✓ **Obesity**
  - ✓ **Heart Disease**
- has been predetermined.**



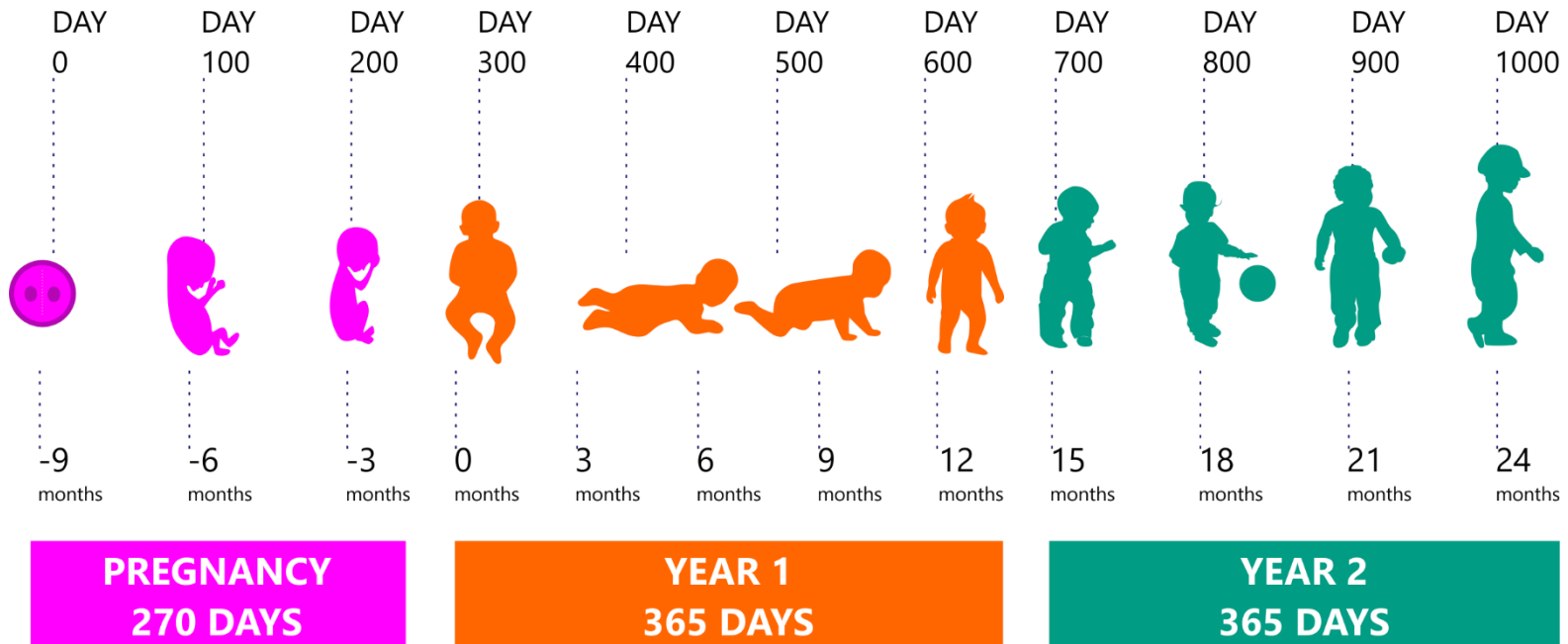
Do you know when?

**When the baby is in the Mother's womb.**



# Journey of The First 1000 days

*From conception to 2 years of age*



**= 1000 days**





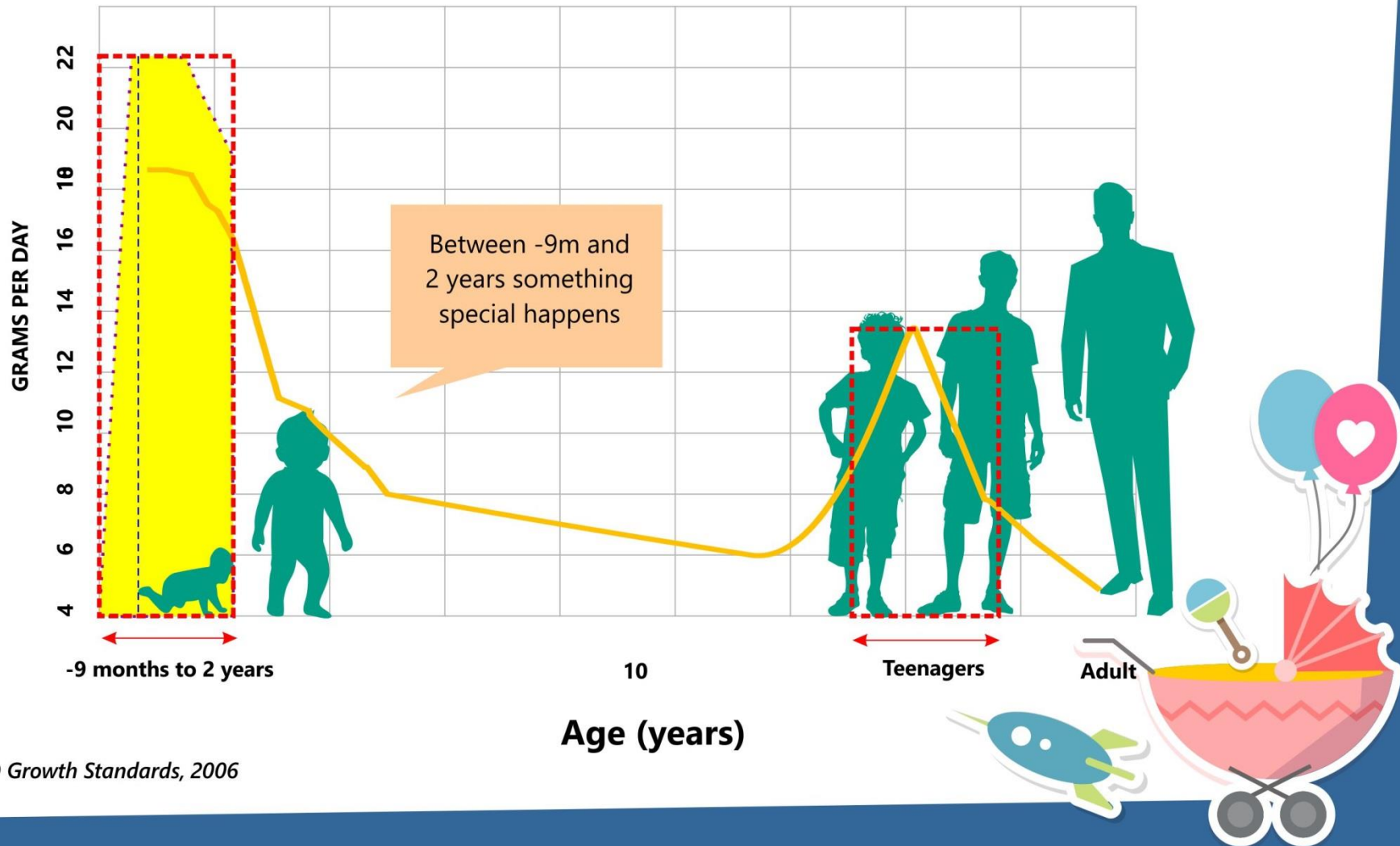
# ***Why Are The First 1000 Days So Important?***

**“What you do, eat or experience during the First 1000 days has lifelong consequences for your health”**

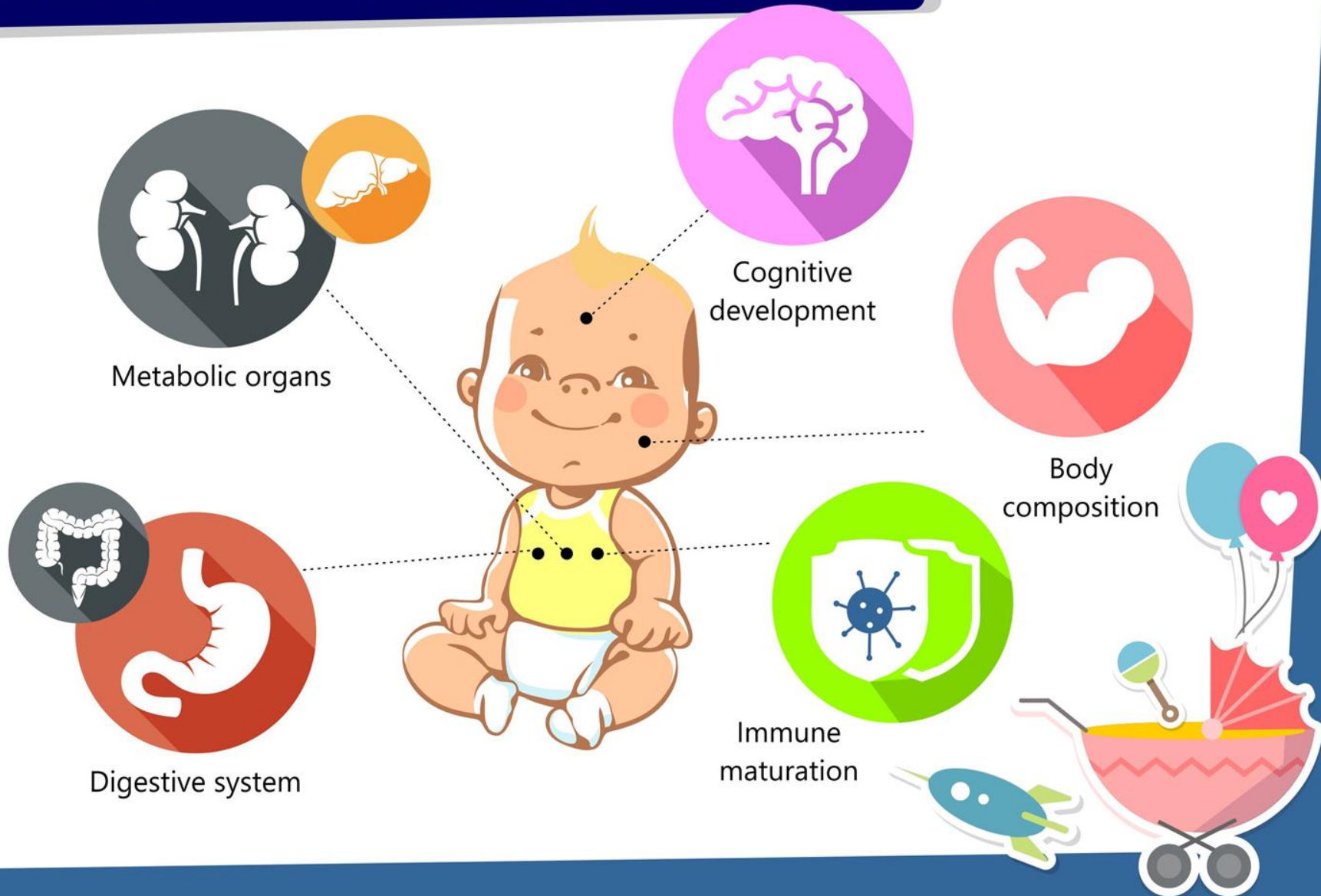
**\*McMullen, 2009**



# *The First 1000 Days Is A Period Of Rapid Growth*



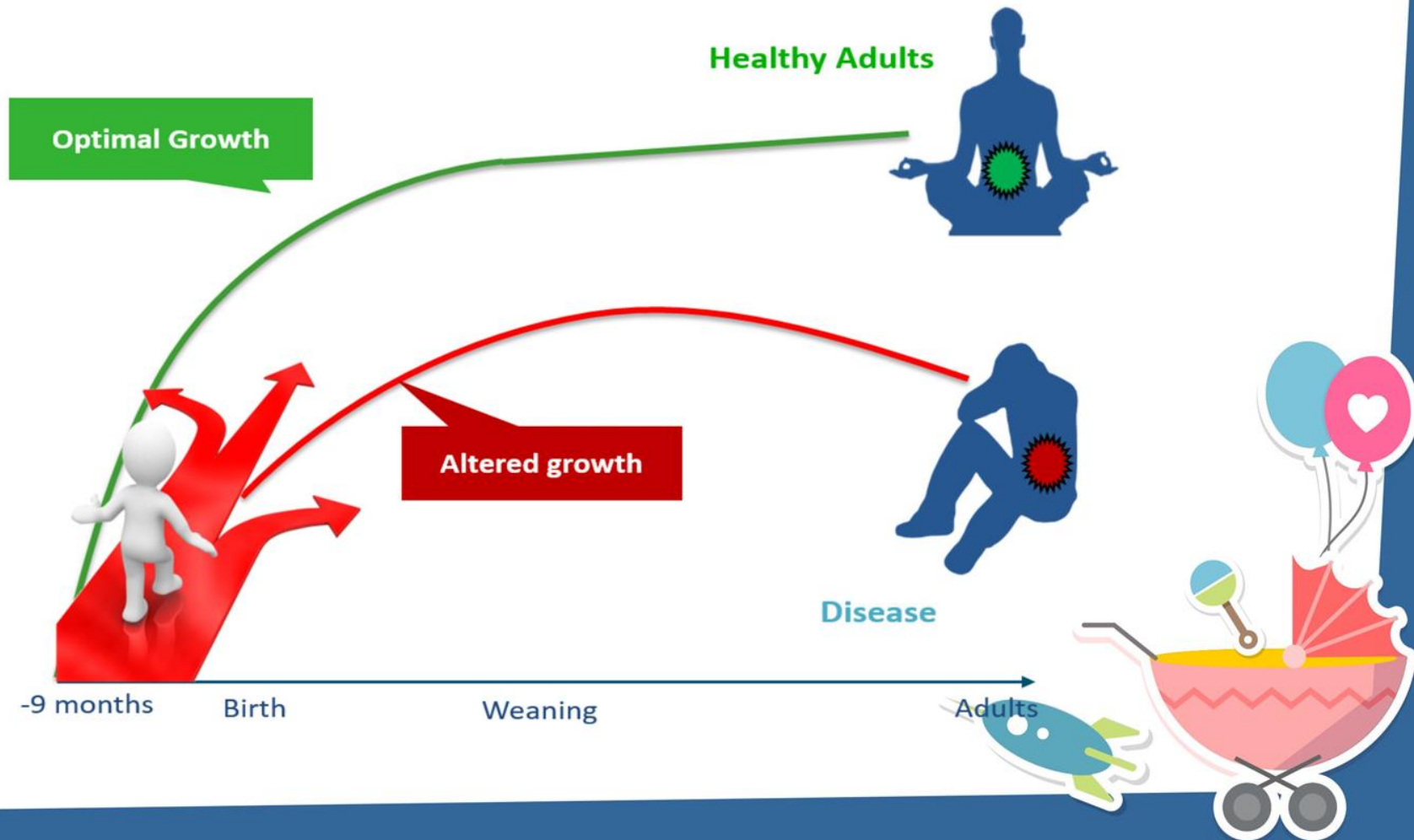
# *And A Time Of Significant Development*





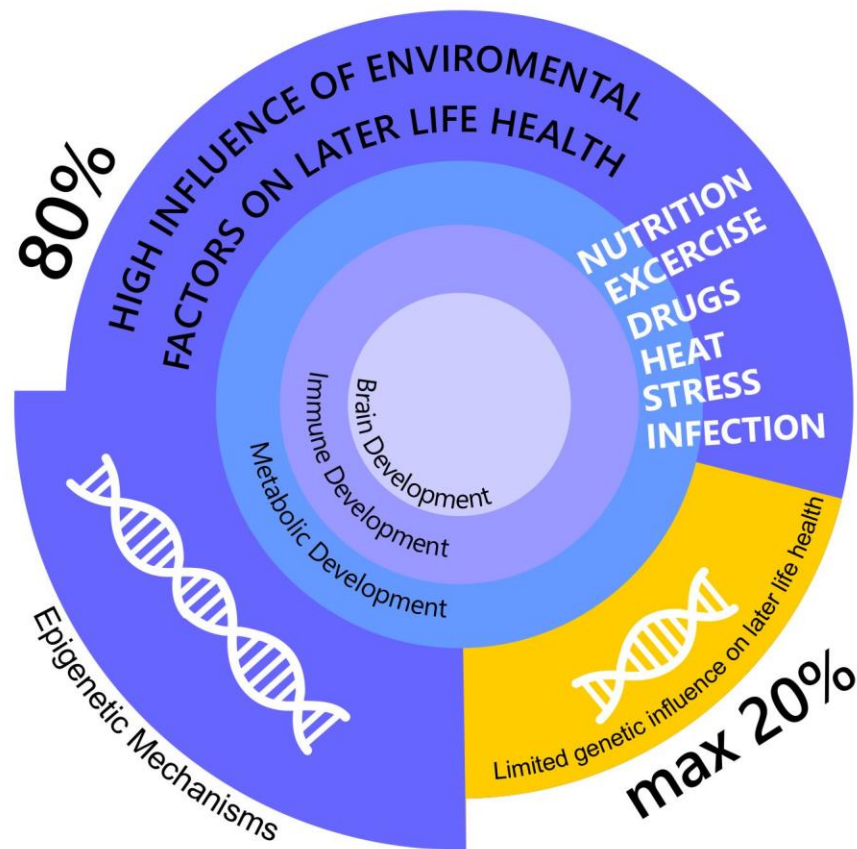
# *With An Impact On Health In Later Life*

Critical window of opportunity





# *The Environment Has Much More Impact On Health In Later Life Than Genes*

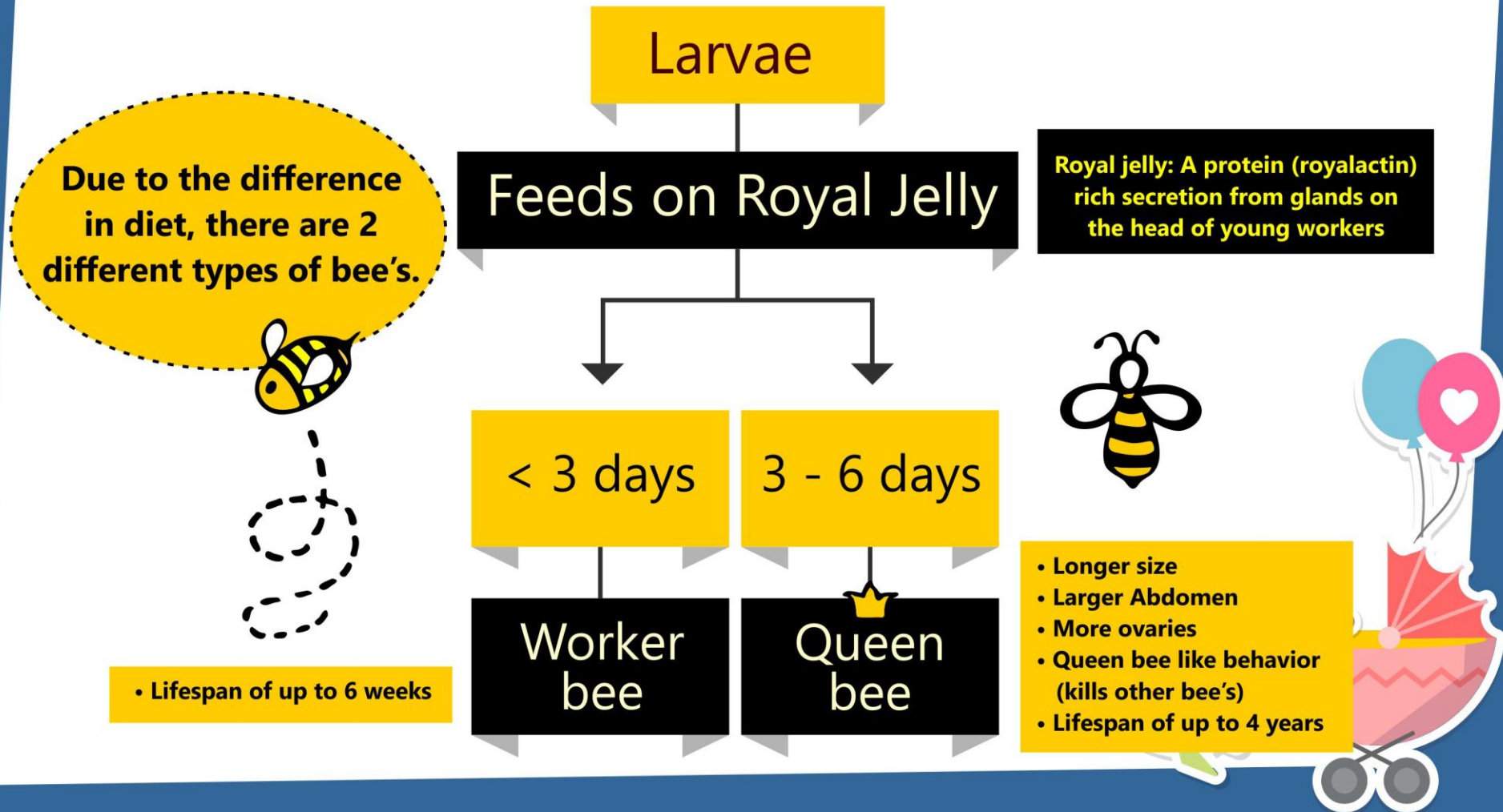


- Genetics can explain occurrence of 20% of lifelong health
- Environmental factors including nutrition and lifestyle, determine the remaining 80% risk of developing chronic diseases

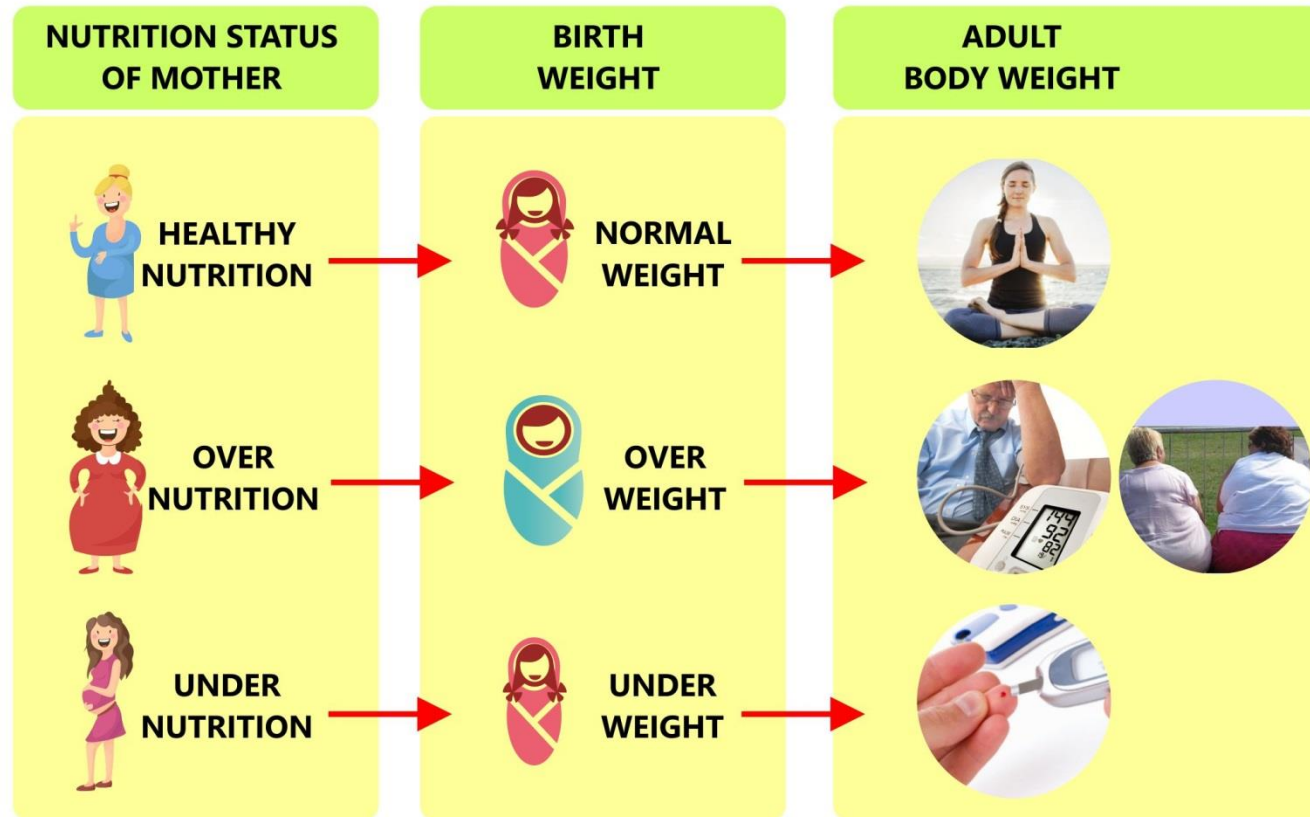
\*Gluckman 2013 (Quote from an article in the Hong Kong Tribune)



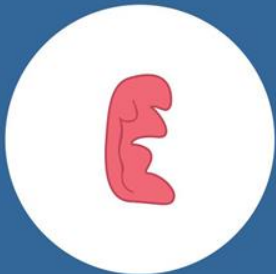
# *Impact Of Nutrition In Early Life: An Example Of Honey Bee*



# Impact Of Nutrition In Early Life



# Pregnancy



**1st Trimester**  
( Week 1 - 12 )



**2nd Trimester**  
( Week 13 - 27 )



**3rd Trimester**  
( Week 28 - 40 )





# The Key Challenges of Nutrition During Pregnancy



**Nutritional status of a woman before becoming pregnant:** It determines early embryo and placenta development

**The body weight of the mother at conception:** If mother is under or overweight, there is a risk at pregnancy as well as the risk of adverse diseases for the child in future

**Nutritional requirements:** Are increased in pregnancy, particularly of some essential vitamins and minerals

**Total food intake:** Mothers do not need to 'eat for two', but rather need to 'think for two' as the quality of the diet is important



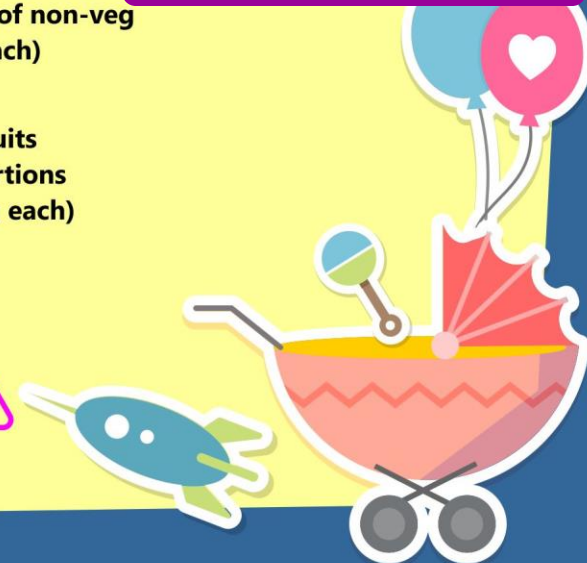
# A Pregnant Mother Should Eat a Well-Balanced Diet

Choose a variety of foods from different food groups to make sure you're getting a good balanced diet.



## DID YOU KNOW?

During pregnancy your additional caloric requirement is only around 350 kcal/day. This can be achieved by including healthy snacks like fruit milkshakes with dates, chikki, paneer vegetable wrap or whole wheat bread based sandwiches.





# ***Nutritional Requirements During Pregnancy***

Even by eating a healthy diet, it is difficult to meet requirements of many essential nutrients like:

**PROTIENS FOLIC ACID  
IRON OMEGA 3 FA**

A supplement of **FOLIC ACID** is required prior to pregnancy and in the first trimester, to prevent neural tube defects

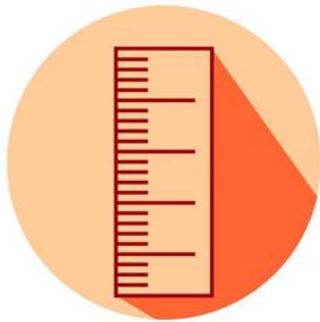
Many women of reproductive age have vitamin D deficiency, so a supplement of **VITAMIN D** or increased sunlight exposure is recommended in many countries

In India, about 50-75% of women of reproductive age have anaemia, hence **IRON** supplementation is very important

Experts have suggested that pregnant women should have 200 mg of **DHA** daily



# ***Four Miracles Which Happens to a Baby After Birth***



**Physical Growth**

**Triple birth weight in the first year of life**



**Cognitive Development**

**80% of adult brain mass achieved by 3 years**



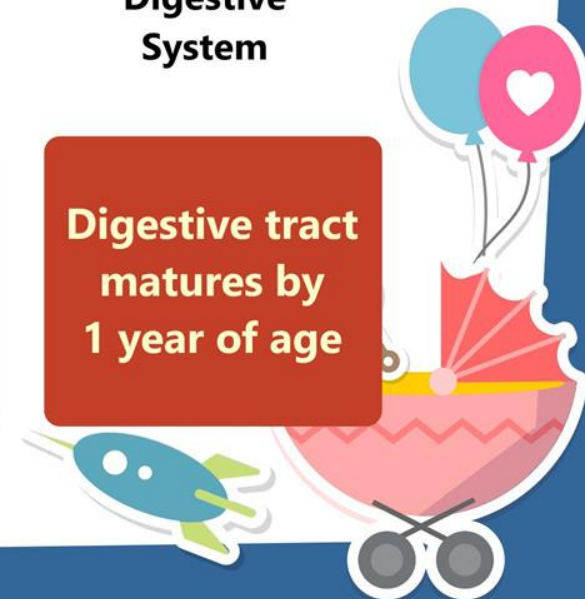
**Immune Maturation**

**It takes 2 years to develop the body's most potent immune organ**



**Digestive System**

**Digestive tract matures by 1 year of age**

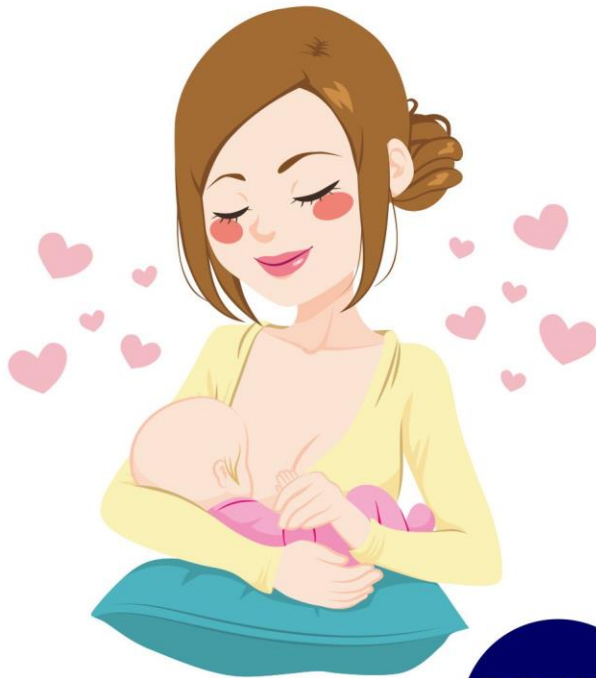




*Breastfeeding*



# *Breastfeeding Is The Best Way To Feed A Child*



**Early Breastfeeding** within 1 hour of delivery

**Exclusively Breastfeed** for the first six months after birth (No water or any other foods)

**Introduce appropriate complementary foods** after 6 months and continue breastfeeding up to 2 years of age and beyond



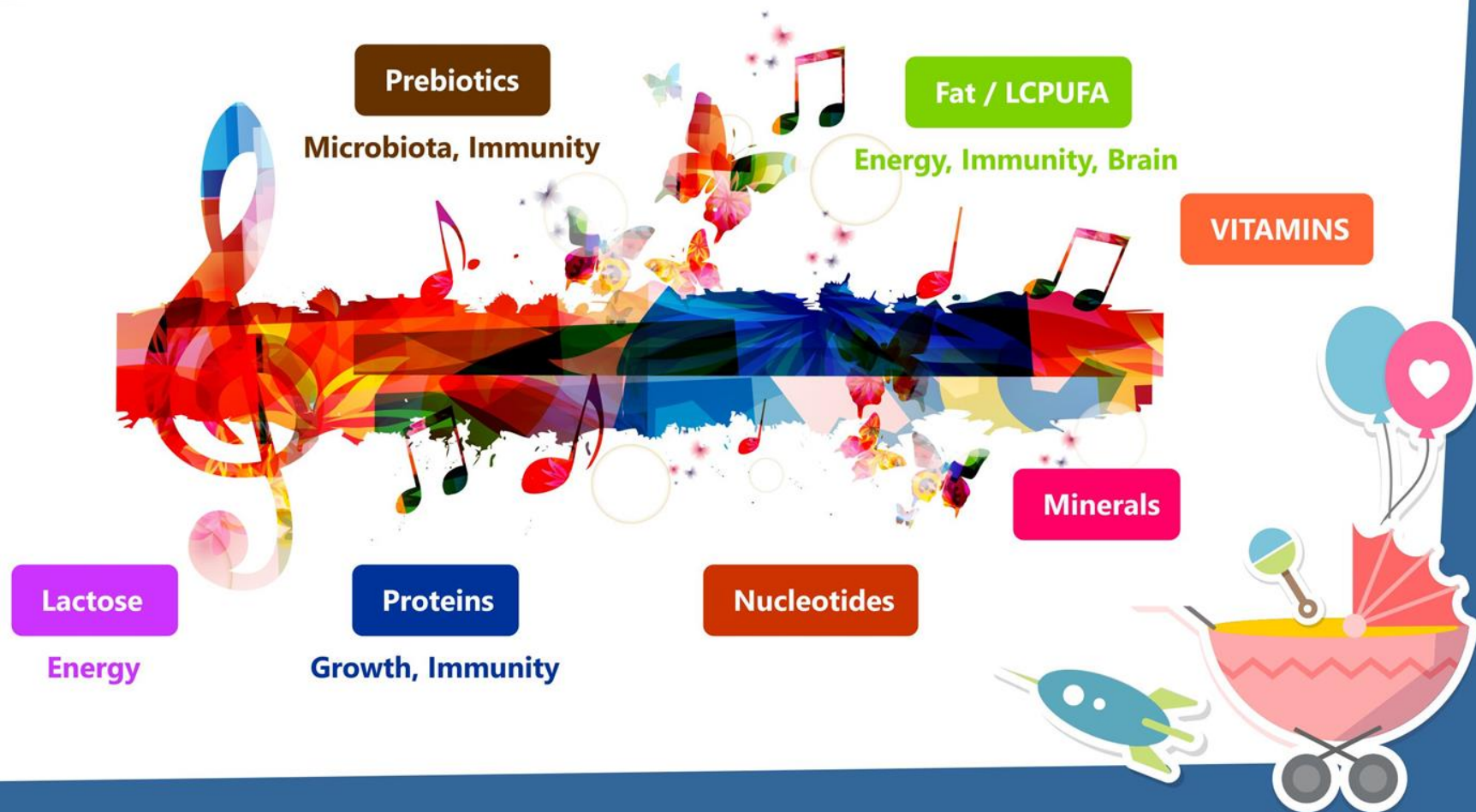
## **DID YOU KNOW**

Colostrum is the 1st yellow coloured thick milk secreted that is rich in all the necessary nutrients. Feeding colostrum protects baby against infections and promotes health during childhood and in later years.



# *Unique Composition of Human Milk*

An Orchestra of Complex Functions in a Complex Matrix





# ***Breastfeeding Has Benefits For Both Mother And The Child***

## **Benefits of breastfeeding for the Baby**

- Aids in growth by providing readily digestible nutrients
- Protects against allergies
- Lowers the future risk of overweight/obesity
- Helps prevent the development of diseases such as diabetes, heart diseases, asthma and some cancers
- Helps in the brain development of the child
- Helps in building the immune system of the child and thus protects against infectious diseases

## **Benefits of breastfeeding for the Mother**

- Helps reduce bleeding post delivery
- Aids in weight loss after delivery
- Helps reduces risk of post-delivery depression, diabetes and osteoporosis
- Acts as a natural contraceptive thereby helps in child spacing
- Reduces the risk of ovarian cancer, pre-menopausal breast cancer
- Helps establish a bond between mother and child





# ***Maternal Nutrition and Breastfeeding***



**Requirements of all the nutrients increase during lactation for milk production**



**Nutritional requirement of breast feeding mothers are higher than that of pregnant women**



**Nutrition supplementation - Proteins, Calcium, Iron, Vitamin D, etc. is recommended during lactation**



# *Did You Know?*



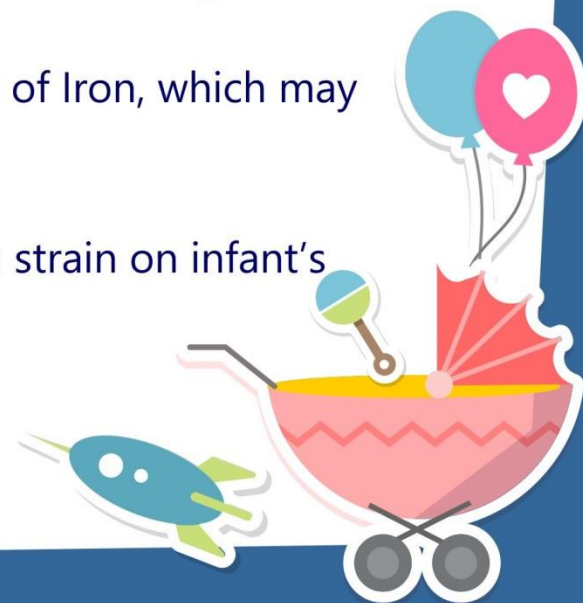
**Data has shown that the consumption of cow's milk by infants less than 12 months of age is common in India.\***

**AAP and ESPHGAN recommend to avoid feeding cow's milk to babies below 12 months of age.**

**Possible harmful effects of giving cow's or buffalo milk to the baby:**

- **Iron Deficiency Anemia:** Cow's milk has low concentration of Iron, which may lead to Iron deficiency anemia.
- **Stress on Kidney:** High levels of protein and minerals put a strain on infant's immature kidney.

\*Data from Nutriplanet, 2013



# *Did You Know?*



- **Difficulty in Digestion:** Cow's milk has high levels of protein (3 times more than breast milk) and also rich in fat, which is difficult to digest for babies.
- **Cow's Milk Protein Allergy:** Feeding cow's milk at an early age can increase the risk of cow's milk protein allergy.

**If the mother is unable to breastfeed, cow's milk is NOT an option.  
Talk to the pediatrician.**

#### References:

- 1) Tiwari S. Infant and Young child feeding guidelines:2010. 2010;47:995-1004
- 2) Breastfeeding and the use of human milk. Pediatrics.2012;129(3):e827-e841
- 3) Agostoni C, Decsi T, Fewtrell M et al. Complementary Feeding: A Commentary by the ESPGHAN Committee on Nutrition. 2008. Journal of Pediatric Gastroenterology and Nutrition 46:99-110.



*Complementary  
Feeding:*  
Introducing solid foods





# ***Importance Of Complementary Feeding***

## **Two key reasons to start complementary feeding are:**

- Increased nutritional requirements of the growing child cannot be sufficed by breastfeeding solely
- Development of healthy eating habits by introducing solid food with new tastes and textures



# Timing of Complementary Feeding

How do you know your baby is ready for solid food?

The WHO & Govt. of India recommended that complementary feeding should start after 6 months of age along with breastfeeding

Early introduction of solid food has been linked to increased risk of obesity



Have good head control

Show interest in food, baby might look at food eagerly & watch

Are able to sit with support

Demands for milk feeds more frequently, for over more than a week



Ministry of Health and Family Welfare  
Government of India



World Health  
Organization



# *Texture Progression Is Important In First Year Of Life*

## First Food: Textures

AGE (MONTHS)	6	6 to 7	7 to 8	8 to 9
COOKING (PREPARATION METHOD)	Blending/Sieving 	Mashing 	Mashing 	Steaming till soft/ Finally chopped 
TEXTURE	THICKER SMOOTH PUREE	SLIGHT LUMPS	BIGGER LUMPS	FINGER FOODS

1. Introduce new food textures to the child's meal while gradually increasing serving size. Textures develop oral motor capabilities, reduce risk of feeding problems and optimize the acceptance of healthy foods.

2. Variety is the key to introduce broad range of flavours to the child. Offer different fruits and vegetables to the child with the meals.

3. Don't be discouraged if the child repeatedly refuses to eat certain foods. Studies indicate that children may need repeated exposure (about 11 times) before accepting any food.





Toddlers





# **Toddlers Gain >15% Height And >25% Weight In Just 1 Year**

*(which is, a 70 kg adult gaining 17 kg of weight in 1 year)*

- **Toddlers need up to 7 times more nutrients than an adult (per kg body weight)**
- **Which means, with every spoon, a child has to eat significantly more nutrients than an adult**

**Per Kg Body  
weight**

**5.5 x more Iron**

**4 x more Calcium**

**(compared to  
adults)**

**3 x more Essential Fatty Acids**



*13 to 24 months*

# ***RAPID WEIGHT GAIN***

**Ensure consumption  
of protein and iron  
in diet to promote growth.**



**Growth is  
Most rapid**



**2x birth weight**



**3x birth weight**



**4x birth weight**

**Growth is most  
rapid in early  
childhood.**



**13 to 24 months**

## **STOMACH CAPACITY GROWTH**

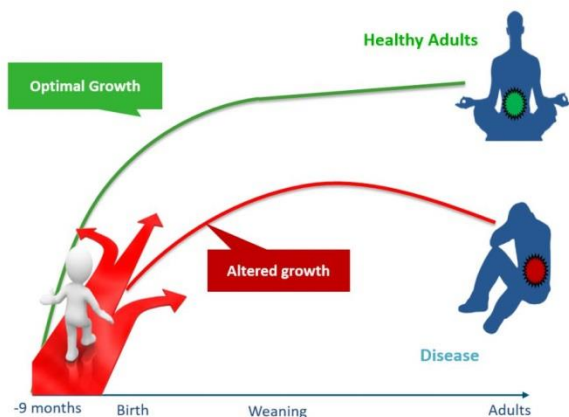
AGE	BIRTH	2 MONTHS	1 YEAR	ADULT
STOMACH CAPACITY	SIZE OF A STRAWBERRY	SIZE OF A SMALL KIWI	SIZE OF AN ORANGE	SMALL CANTALOUPE
	1.05 OZ	2-3 OZ	7-10 OZ	1 CUPS ( 1 QUAT)
				

- Average amount of each meal can be 3/4th to 1 cup (250 ml)
- 3-4 meals + 2 snacks + breast milk
- Insist on providing family foods
- Do not overfeed the child



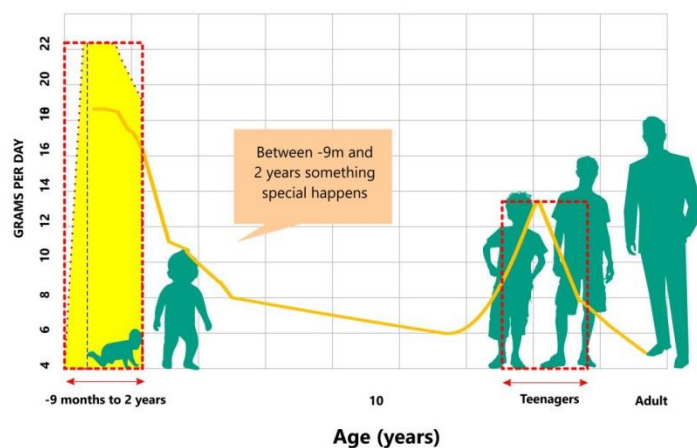


# Conclusions



The First 1000 days offer a unique window of opportunity to build long-term health. The right nutrition has long standing effects on the quality of life.

The rapid growth and development during pregnancy, breastfeeding, complementary feeding and toddlerhood leads to specific nutritional requirements during each of these stages.



Therefore, it is important to ensure that every mother and child, have access to optimal nutrition during the First 1000 days!



***Lets take a  
quick test***



1) First 1000 days of life applies to 270 days of pregnancy and first 2 years of life.

2) What you do, EAT or experience during the first 1000 days has lifelong consequences for your health.

3) First 1000 days of life is a period of rapid growth and DEVELOPMENT.

4) Research has shown that chronic diseases like diabetes, high blood pressure originates in mother's womb in response to under-nutrition or OVER-NUTRITION.

5) Lifelong health can be explained 20% by inherited genes and 80% by environment.





**Lets take a pledge today**



**An Education Initiative By**

