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## Is It Really Possible To Induce Lactation

The question is often asked: "Is it really possible to induce lactation, and produce enough milk to breast feed without first being pregnant?"

The ability to lactate and breast feed is an autonomous function of the female body, occurring independently of the reproductive organs. As long as her breasts remain healthy and undamaged by disease, trauma or surgery, under optimal conditions, most women have the ability to induce lactation and produce enough milk to breast feed, regardless of whether she is now or has ever been pregnant. Or whether she is in many cases, capable of becoming pregnant.

Because a woman's mammary glands function independently of her reproductive organs, under optimal conditions, it is also possible to induce lactation while being post-Oophorectomy<sup>[1]</sup> or post-menopausal. While some degeneration of mammary tissue is to be expected as a woman advances in age, neither age, nor absence of functioning ovaries present an insurmountable obstacle to successfully inducing lactation.

When a woman's breasts mature during early adulthood, each mammary gland can contain up to 2000 alveoli<sup>[2]</sup>, (milk producing cells), and being so, as she advances in age, there are usually enough healthy alveoli remaining to produce at least some milk. Successfully inducing lactation depends more on the good health of a woman's breasts and endocrine system, than on her age, or the condition of her reproductive organs.

However, while the preceding statement(s) are correct in context, the operative phrase is, "under optimal conditions". Understanding the optimal conditions under which lactation can be induced outside of pregnancy is the key to success.

Obviously, to successfully induce lactation, the endocrine system must be in good health and capable of producing not only the hormones necessary for lactation, but in the correct balance. This is particularly true of estrogen and progesterone. Milk production can be inhibited if the levels of these two hormones are too high or too low.

Also, the mammary glands, milk ducts and nerve endings, (particularly those in and around the nipples), must be healthy and intact. For example: surgery such as a mastectomy<sup>[3]</sup>, or breast augmentation that damages the milk ducts and/or the nerve endings in and around the nipples, would likely eliminate any realistic possibility of inducing lactation.

In addition, even when a woman is in good health, and her breasts are physically capable of producing enough milk to breast feed, successfully inducing lactation outside of pregnancy is both a physical and mental process.

To simplify the physical process:

When the nipples/areolas are stimulated by suckling, (suckling as opposed to similar stimulation that creates arousal), signals are sent to the brain via the nervous system. When the brain senses the nipple(s) are being stimulated by suckling, through both chemical neurotransmitters and the nervous system, it triggers the endocrine system to release the hormones necessary for lactation.

When the endocrine system releases the hormones necessary for lactation, the mammary glands, stimulated by the hormone prolactin, begin making milk from water, fat, carbohydrates and protein stored in the breasts. The hormone oxytocin then stimulates specialized myoepithelial cells<sup>[4]</sup> surrounding the milk producing cells, (the alveolus and its milk sac), causing them to contract, forcing milk into the milk duct toward the nipple where it can be suckled.

The physical process of lactation is genetically imprinted in the mid-brain<sup>[5]</sup> at birth, and being so, healthy mammary glands will continue producing milk as long as the nipples/areolas are being stimulated/suckled correctly.

Note: This is a simplified explanation of how the female body makes milk. A more comprehensive explanation can be found in libraries, and on numerous, credible web sites on the internet.

It also should be noted: The endocrine system is fully capable of producing all of the hormones associated with pregnancy and breast development except one. Human placental lactogen<sup>[6]</sup>, produced by the placenta from the second month of pregnancy, modifies the metabolic state of the mother to ensure adequate fetal nutrition. However, even without this hormone, the mother is still able to lactate and breast feed after delivery. Lack of this hormone does not seem to interfere with successfully inducing lactation.

To Continue:

While the physical process of lactation is genetically imprinted in the mid-brain at birth, the mid-brain cannot think, nor can it make decisions, it can only follow its genetic imprint. The mid-brain, (and whether or not milk flows), is controlled by the conscious<sup>[7]</sup> and subconscious<sup>[8]</sup> mind(s).

Consciously, a woman may sincerely want to lactate and breast feed outside of pregnancy, and she may have successfully identified and overcome any physical obstacles that might interfere with her efforts; however, if her subconscious does not send the signal to her mid-brain to start the process, her efforts to produce milk outside of pregnancy will be inhibited, and this can occur without her being consciously aware of why she is unable to produce a steady flow of milk.

And there is a reason.

In the past, before the wide-spread availability of baby formula and birth control, young girls expected to lactate and breast feed when they reached adulthood and started a family. Historically, lactation and breast feeding was a natural part of a woman's self-identity, and being unable to lactate and breast feed was never a consideration. However, young women today grow up in a very different world.

Young girls today are taught by cultural example that it is unnecessary to breast feed their future children, (if they choose to have children at all), and in many cases, having milk in their breasts as an adult is thought to be undesirable. Even young boys today often think breast milk is disgusting, and no young girl wants to be seen as undesirable by young men with whom they will have to establish a relationship as they grow up.

The social negativity toward motherhood and breast feeding in our current culture can create a subconscious obstacle that can literally stymie even the best efforts to induce lactation outside of pregnancy. Just as easily as the subconscious can send a signal to the mid-brain to start lactation, it can send a signal to stop lactation. Considering this, the possibility of an underlying subconscious obstacle must be considered, and overcome if necessary.

While the subconscious can be one of the most critical obstacles to successfully inducing lactation outside of pregnancy, there are other, more obvious obstacles that must be considered and addressed as well.

For example:

When a woman is inducing lactation, (or relactating<sup>[9]</sup>), to breast feed an adopted child, she will have to stimulate her breasts up to eight times each day, (or more in some cases), to mimic the feeding schedule of an infant. Work schedules can make this difficult, if not impossible.

And it's not just scheduling conflicts that can interfere with producing enough milk to breast feed: stress from work, (or other commitments), can create mental and emotional stress that can inhibit lactation. Whether inducing lactation to breast feed an adult or an infant, a realistic, stress free schedule must be planned before beginning the physical process of inducing.

Also, clothing that bind the breasts can inhibit lactation. While a woman's breasts often need support, a bra that is too tight can prevent the needed fluids from accumulating in the breasts.

And not surprisingly, birth control is a common inhibitor of lactation. Most birth control methods today are based on estrogen and/or progesterone, which in higher levels will inhibit lactation. In some cases, a woman may have to consider an alternative method of birth control.

While prescribed for the best reasons, hormone supplements such as HRTs can create an imbalance in a woman's endocrine system. When a woman is taking hormone supplements for health issues such as menopause, loss of ovaries or thyroid problems, she may have to consciously manage her hormone levels. In some cases, she may even have to consult a health care professional experienced with lactation concerns.

Note: The type of estrogen supplement prescribed for certain health issues may be of concern also. In some cases, premarin<sup>[10]</sup> may be less effective for producing milk than estradiol<sup>[11]</sup>.

Another concern may be diet. While foods that contain ingredients such as sage, parsley, oregano, peppermint or excessive alcohol can inhibit lactation, foods such as whole grains, fruits and leafy vegetables are known to improve lactation. Also, foods high in phytoestrogens<sup>[12]</sup> may help balance the endocrine system when there is an absence of functioning ovaries due to menopause or surgery. To insure success, a well-planned, long-term diet should be thought out before beginning the physical process of inducing lactation.

In conclusion:

To answer the question: "Is it really possible to induce lactation, and produce enough milk to breast feed without first being pregnant?" Yes it is; however, as pointed out, only under optimal conditions.

In the past, wet nurses found it easy to relactate when needed, (or in some cases, induce lactation for the first time); however, life was very different then. In the past, most women gave very little thought to anything beyond being a wife, mother and homemaker, and being so, this, coupled with a simpler lifestyle and a more natural diet, producing milk outside of pregnancy wasn't difficult.

Unfortunately, today's fast-paced contemporary, often complicated, lifestyles are anything but conducive to lactating and breast feeding, whether the intent to breast feed is outside of pregnancy or the result of pregnancy. To successfully induce lactation, and produce enough milk to breast feed outside of pregnancy, a woman may have to make some hard life choices. Lactation cannot be induced on a whim: it takes both planning and commitment, and in some cases, sacrifice.

#### **Footnotes:**

##### 1. Oophorectomy:

- I. Surgical removal of the ovaries.
- II. Lactation is dependent on estrogen produced by the ovaries; not on the physical presence of the organ itself. In the case of menopause or surgical removal of the ovaries, estrogen levels can be greatly improved by dietary changes and hormone supplements.

##### 2. Alveoli:

- I. An alveolus is a single milk producing cell. Up to 100 alveoli, (plural), in grapelike clusters, contained in 15 to 25 lobules, (sacs), form a radial structure around each nipple. Milk is moved from the alveolus to the nipple(s) through interconnecting milk ducts.
- II. Note: While each nipple may contain 15 or more milk ducts/sinuses, fewer than 8 may be functional when breast feeding. When the demand for milk increases, more alveoli and milk ducts/sinuses become active.

##### 3. Mastectomy:

- I. Surgical removal of the mammary glands.
- II. When a partial mastectomy, (lumpectomy), has been performed, the remaining portion of the mammary gland may in some cases, still be functional enough to produce at least some milk.
- III. When only one mammary gland has been removed, the remaining healthy and undamaged breast, will in most cases, produce milk normally.

#### 4. Myoepithelial Cells:

Also known as myoepithelium, myoepithelial cells are spindle-shaped muscular cells arranged obliquely and longitudinally around the secretory alveoli of the mammary gland, that contract when stimulated by oxytocin.

#### 5. Mid-Brain:

- I. Also called the mesencephalon, the mid-brain is the small, central part of the brainstem, developed from the primitive or embryonic brain.
- II. The mid-brain controls autonomous functions of the body, such as motor movement, sleep/wake cycles, body temperature, perspiration, heart rate, hormone levels, etc.

#### 6. Human Placental Lactogen:

Human Placental Lactogen, (hPL), mimics the action of prolactin; however, it is unclear whether it has any role in breast development or lactation.

#### 7. Conscious Mind:

- I. The awareness of one's own existence, sensations, thoughts and surroundings.
- II. The mental activity of which a person is aware as contrasted with unconscious or subconscious mental processes.

#### 8. Subconscious Mind:

- I. Mental activity existing or functioning in the mind beneath or beyond consciousness.
- II. The total mental processes of which the individual is not aware. Unreportable mental activities.

#### 9. Relactation

- I. Relactation refers to a woman who lactating for at least the second time, but is dry at the time of her efforts to induce lactation outside of pregnancy.
- II. Note: A woman who has breast fed in the past six months can relactate more quickly than a woman who is inducing lactation for the first time; however, if it has been longer than six months, it normally takes longer.

#### 10. Premarin

Premarin, (a conjugated estrogen), is a mixture of several different types of estrogen.

#### 11. Estradiol

A natural form of estrogen, (produced by the ovaries, adrenal glands

and breasts), is sometimes prescribed as a hormone supplement.

## 12. Phytoestrogen

A naturally occurring estrogen found in plants of the legume family, whole grains, certain vegetables and fruits.

Disquisition/Essay by Hudson