

Infertility - Background and Reflexological Treatment

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Introduction



Throughout history the concept of fertility has been praised and celebrated. But in the modern western societies the atmosphere of fertility has often taken on an air of clinical coldness. The junction of egg and sperm is an act of love - a merging - which is not just the meeting of two, but something more and new is created - a fruit so obviously demonstrating the universal principle that wholeness is more than the sum of the individual parts. Rudolf Steiner, the German anthroposophical philosopher, calls the female uterus "the little heart", thus implying how important it is to have the heart involved in the reproductive process - and that "the little heart" creates room for a new person.

Danish experiences with reflexology and infertility

Reflexology is the mostly used alternative treatment form in Denmark, where one in four have consulted a reflexologist. In fertility clinics around 70-80 percent of the patients also have contacts with the complementary field, the majority of whom choose reflexology. Therefore a lot of know-how on treating infertility exists among Danish reflexologists.

Definition of infertility

Of those women who wish to become pregnant 80 percent are successful within one year. In Denmark the official definition of infertility is: pregnancy not obtained in more than 2 years.

How big is the problem of infertility?

More and more couples are infertile. In Denmark every 6th couple experience problems reproducing themselves.

The worldwide prevalence is 8-12 percent which equals 60-80 million people worldwide.

Some facts about female fertility

The average age at the first menstruation is 12,4 years in Denmark
Greece 12.0 - Italy 12.2 - Norway 13.2 - Nepal (high altitude) 16.2

Women are the only mammals who have a rhythmic ovulation every month
A normal cycle lasts 26-28 days. Ovulation occurs normally in the middle of the cycle at the 13th-14th day. At the time of ovulation the cervical mucus changes in consistency becoming thin, clear and elastic, thus helping the sperm getting to the target.

The cycle often varies from woman to woman, which is normal and causes no problems as long as the time for ovulation is known. A regular cycle is more important than the length of it.

At the time of birth all women have about 2 million so called primordial follicles in their ovaries, each containing one immature ovum. Starting a new cycle, about 1000 follicles begin to enlarge and at day six (approx.) one of these start to grow rapidly, while the remaining regress.

When no more eggs are left the menopause starts.

If for some abnormal reason more than 1.000 eggs are used every month, menopause will occur at a proportional earlier point of time.

Ovulation does not alternate between left and right ovary every month, rather the lucky follicle seems to be randomly selected.

At the time of ovulation the matured follicle ruptures and the egg is extruded into the abdominal cavity where it falls down in the peritoneum behind the uterus. Here the two mobile fallopian tubes are both trying to catch the egg. It may very well be caught by the tube opposite the ovary that released the egg. That is why it is still possible to get pregnant although one of the tubes is defect.

25 percent of all matured eggs do not allow fertilisation. 40 percent have chromosomal defects. This gives an idea of how difficult the reproductive process can be.

Some facts about male fertility

Men produce 100 million sperm cells every day. No wonder, why they often are a bit absent!

Men never think that they could be part of a fertility problem!! But they often are. The quality of semen has a great influence on the possibility of pregnancy. In Danish fertility clinics semen quality plays an

important role in 20 percent of all cases of infertility .

Measure the quality, if something is wrong, have another control. A sperm cell needs anything from 2-73 days to mature. Therefore, intervals between sperm controls should be at least 73 days, 3 month is recommended.

The average amount of sperm cells per ejaculation is 60 million/ml. Less than 10 million/ ml creates an infertility problem.

The spermatozoa are delivered in an alkaline fluid in order to survive in the acidic environment (pH 4.5) in the vagina.

Moreover, there is a great variation in the semen quality between different areas of the world: In Finland, the mean sperm concentration in fertile men is about 90 million spermatozoa per millilitre of semen, whereas in Denmark, it is only 60 million/ml. There is also a debate about a possible decline in sperm concentration in the USA and Europe since World War II. It seems, that among "normal" men, the mean sperm concentration decreased from 120 million/ml down to 60 million/ml between 1950 and 1990 .

Common causes of male infertility

Semen quality vary depending on the condition of the owner. Fever for example, can decrease the quality. Other possible causes of male infertility include:

- Closed sperm tubes often resulting from a Chlamydia infection
- If the temperature in the scrotal sac rises above 35.5 degrees Celsius (normal range: 34.5-35.5) the spermatozoa may be damaged. The advice is to avoid wearing tight fitting underwear or jeans and avoid hot tubs
- Many chemicals and toxic substances in our environment are also suspected to have a negative influence on the quality of semen, especially those who exert an artificial hormone-like effect.

Female infertility

In 65 percent of all infertility cases examined by conventional medicine, the underlying causes are unknown. It is especially these 65 percent reflexologists are often able to help.

In the remaining 35 percent of the cases the cause of infertility has been established.

Lets take a closer look at these two groups.

Common causes in the 35 percent explained cases

Age

Today European women are older when they decide to have a child, but the older the woman, the more difficult it is to become pregnant. 5 percent of all 28 year old women are unable to become pregnant within 3 years. For 38 year olds the rate is 42 percent.

Hormonal disorders

50% of women in IVF treatment (in vitro fertilisation) suffer from poly cystic ovary syndrome (PCO). More than 20-30% of women in the fertile age suffer from PCO.

Insulin resistance seems to have an influence on PCO (diabetes type II). Thus, insulin resistance and elevated ovarian androgens appears to create an ovarian environment, which cannot support the orderly development of an ovarian follicle, resulting in anovulation.

A menstrual cycle with less than 12 days between ovulation and menstruation could also be problematic, because the mucous membrane in the uterus needs time to prepare for the fertilized egg to attach itself properly.

Increased level of the prolactin hormone

Prolactin and other hormones are responsible for the development of mammary glands during pregnancy. Prolactin also affects the ovaries. High prolactin levels lead to reduced progesterone function. The result of hyperprolactinaemia can be the non-appearance of menarche, absence of menstruation in a woman after puberty and absence of ovulation i.e. no mature eggs produced.

Apart from the abovementioned causes, many other hormonal disorders may be involved in reduced reproductivity.

Mechanical causes

Polyyps, myositis or fibromas in the uterine wall may have a contraceptive effect.

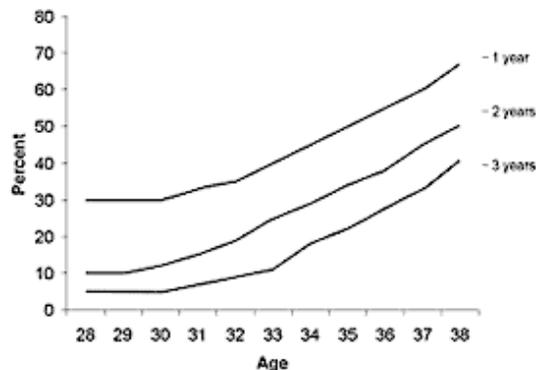
Defect fallopian tubes

Infections are common causes of closed fallopian tubes. This was particularly marked after the introduction of the Pill in the 60th, because more woman had more different partners.

Woman having used an IUD (intra-uterine device) for contraception may also experience closure of the fallopian tubes, which are not wider than a sewing thread. There is a very crucial balance between the irritation necessary for the IUD to work and a mild inflammation that may close the fallopian tubes. Be aware, that the fallopian tubes may be assessed as normal, even though the mucosa lining the inside of the tubes may be disturbed. The mucous membrane contains small cilia projecting into the lumen. These function as escalators moving the contents along and keeping the tubes clean, but an impaired function of the cilia may affect transportation of the ovum through the tubes.

Overweight

With a body mass index above 30 it is very difficult to become pregnant (normal body mass index is



19-24). Research has shown, that in these cases, just a 10 percent weight loss restores fertility back to normal.

Infections

Vaginitis is one of the most common causes for women to seek healthcare. A study showed that 72 percent of young sexually active females had one or more forms of vaginitis .

90 percent of all vaginitis cases in the fertile age is caused by infection with one or more of the following: *Trichomonas vaginalis*, *Candida albicans*, Herpes simplex, Gonorrhoea - and *Chlamydia trachomatis*. *Chlamydia* is very common infecting 5-10 percent of all women. Certain populations have rates as high as 25 percent .

Other causes of vaginitis involve chemicals and allergy.

Remember, that painful urination could be a sign of vaginitis.

The problem with vaginitis is that it disturbs the microbiological milieu in the vagina and so prevents the sperm from surviving on its way towards the egg.

The possible importance of orgasm in relation to fertility is being discussed, but so far no scientific evidence suggest that orgasm should improve the chance of conception.

How is female infertility treated in the medical world?

Some gynaecologists advice to start with the "natural way" combined with hormonal stimulation, but most proceed directly to so called assisted reproduction methods such as IVF (in vitro fertilization), insemination, etc. The use of assisted reproduction has gone up more than 4 times within the past 10 years.

Average success rates of IVF and insemination is around 30 percent depending on how you measure it. At age 45, which is the allowed maximum age for using IVF in Denmark, the success rate is 10 percent. Today, the number of test tube children totals 500.000 worldwide. The oldest test tube "baby" in Denmark is 23 years old.

A complementary view on infertility

Possible causes for the 65 percent unexplained cases

You could choose to view infertility as a "friend" and not an enemy. It often provides the information that the body of the woman or the man is not in a suitable condition, physically or mentally to become pregnant, and thus offers a chance for change.

As shown above a multitude of different causes of infertility exist and often many are acting together at one time. Our job is to assist the woman - or man - in achieving the best possible health condition, so nature will perceive the body as ready to create a new person. The general condition is important with special attention to the following:

1. Heat stimulation

It is very common that women with infertility problems have cold feet. Hot-cold alternating baths could be recommended. Advise the client to keep her feet warm, if possible. Cold feet can adversely influence problems in the genital organs and bladder. Be aware of low thyroid function - and especially the kidneys in the treatment. Suggest daily exercises for the pelvic muscles to increase blood flow.

2. Hormonal status

Is the menstrual cycle regular? And where in the cycle does ovulation occur? Many women don't know how their cycle works! - surprising in these days of female individuality. Take note of variations and problems in the cycle, as this gives you an idea of how to prioritise the treatment.

3. Infections

Infection with *Chlamydia* and old encapsulated infections may influence the immune system. *Chlamydia* infection is very common and tricky because often you don't feel any symptoms and may have it for years. It is the most common cause of closed fallopian tubes in women and closed vas deferens in men.

Fungus infection in the cervix, often caused by *Candida albicans* is another common condition. It is probably not possible to get pregnant if you have this.

4. Condition of mucous membranes in general

A functional connection seems to exist between all the body's mucous membranes. If the epithelial lining of the nose, throat, bronchi, lungs, stomach, intestines or bladder has been irritated, week, swollen or the microbiological balance is disturbed, chances are high that the mucous membranes in the vagina, cervix, uterus, fallopian tubes and ovaries are also affected. Most of my clients with infertility problems have or have had mucous membrane problems somewhere else in the body.

5. Allergic reactions

May cause irritated mucous membranes as mentioned above. An over reactive immune system could see the sperm as an enemy and attack them.

6. Musculo-skeletal tensions in the pelvic area

The increased focus on the pelvic area because of the infertility problem, sexual - or other problems may cause tensions in the pelvic muscles and tendons. Menstruation pain could be an indicator. Pay special attention to the psoas muscle and lower back muscles (figure 2).

7. Stress level

Women trying unsuccessfully to become pregnant may have levels of stress, in terms of anxiety and depression, equivalent to women with serious diseases .

When we are under stress, we experience several neurochemical changes. This can alter the ordered release of hormones that regulate the maturation and release of an egg. In addition to this, the concentrations of several important chemical messengers involved in reproduction

change when our emotional states change. There is a direct link between the brain and the reproductive tract. Nerve fibres connect the brain directly to both the fallopian tubes and the uterus.

The autonomic nervous system influence the ovary's ability to produce healthy eggs and hormones. For example, when a woman is under stress, spasms occur in both the fallopian tubes and the uterus, which can interfere with movement and implantation of a fertilized egg.

In case of man, both physical and emotional stress are known to affect the fertility. Sperm counts, motility, and structure are altered under stress. Problems such as impotence and difficulties with ejaculation are often caused by the emotional distress in men.

8. **Mental health**

Today, many European women have two fulltime jobs, one outside the home and one as manager of the family as well. Perhaps, being in a fulltime job - some even in a high status career job - is a shift towards what we may define as masculine values? Does that influence the female fertility?

It is a good idea to have a talk about the essential and existential aspects of creating a new human being. It is important that the body is ready - but it may be even more important that the mind is ready!

Reflexology therapy

The first session

- I ask the client to prepare a list at home, writing down all symptoms from the body, small or large, new or old. At the first session we go through the list together.
- If possible - and especially if the man has decreased semen quality, I invite both of them to attend the first session.
- I use the checklist below, asking which tests have been carried out and maybe recommend some other tests be taken:

Check list

Both male and female:

- pH value
- inoculation for Chlamydia

Female:

- determine exact time of ovulation with a test set, 2-3 times
- blood pressure. (According to anthroposophy low BT could indicate low kidney energy)
- consistency of cervical mucus at ovulation (should be thin, clear, elastic)
- weight
- pelvic organ scan
- hystero-salpingography (x-ray of fallopian tubes)

Male:

- testing semen quality (always more than one test with 3 months interval)

- I perform a test of the psoas major muscle in the female to see whether it is tense. If there is tension, I show her how to stretch the muscle. And I teach her a daily exercise for increasing the blood flow in the pelvic organs.
- Interview about nutrition and recommendations on nutrition, vitamins and minerals. In the case of many secondary health problems, it is a good idea to suggest a 2-3 months course of restoring the body with changed diet, supplements and reflexology treatments, before the next attempt in getting pregnant.
- You could include questions on the teeth, such as teeth problems, amalgam fillings, etc.
- Examination of the feet with special attention to the symptoms from the ailment list they prepared at home.
- Finally, I draw up a treatment plan and if both male and female have problems we make a priority together, who is most important to treat first - in such a case it is of course best to treat both if possible.

There are various opinions on the importance of sexual abstinence 3-4 days before the ovulation. My advice is for the couple to continue their love life as it used to be before the infertility problem showed up - it is difficult, but very important as well.

To make the "cycle plan" together with the partner - to phone him and ask him to be home early because "today is the day" is not a very good idea!

Combining different reflexology methods

In my practise of reflexology I use a mixture of different techniques. This means that often I have several different reflex zones or points at my disposal for treating the same body area and am able to attack the problem from many different angles. The methods I use the most include:

1 Classical reflexology

Based on the original work of Eunice Ingham, this is the basic method most if not all reflexologists are familiar with.

② Marquardt school

In Germany Hanne Marquardt continued the work of Eunice Ingham further developing the reflex zones and a brilliant hands-on technique which is both effective and gentle for the therapist .

③ Nerve reflexology

Originally part of the complementary method called Manual Neuro-Therapy developed by German Walter Froneberg, Nerve reflexology was further developed in Belgium by Nico Pauly. Based on the body to feet projection by Hanne Marquardt, this system adds exact points on the periosteum of the foot skeleton for detailed treatment of individual nerves and nerve structures. This method gives impulses to organs and muscles via the nervous system .

④ Karl-Axel Lind method

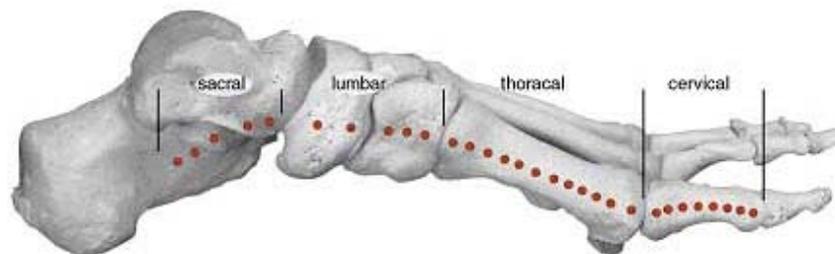
Swedish Karl-Axel Lind has developed a comprehensive reflexology method consisting of several projections of the body into micro systems in the foot, lower leg and foot, head, ear, whole body and more, all contained within a philosophical framework based on classic western thinkers like Plato and others.

The method is being taught in Finland by the Medika Nova reflexology school led by Anna-Kaarina Lind.

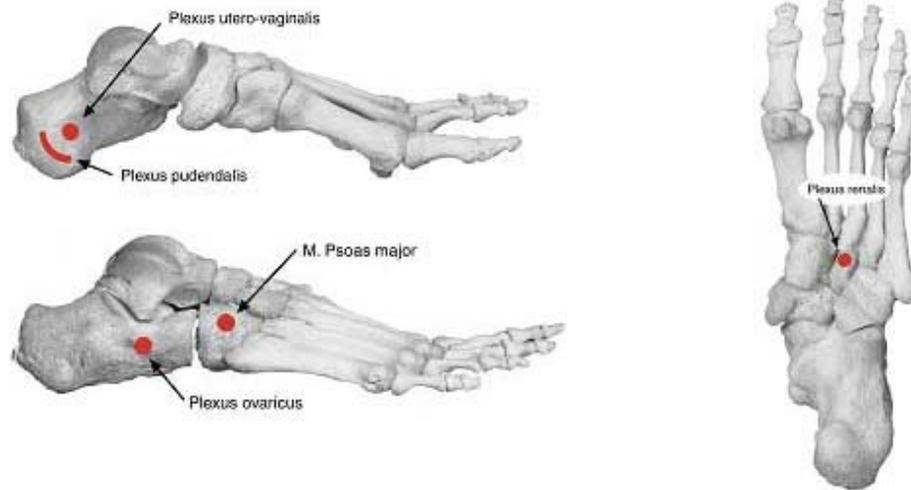


Selected nerve reflex points

Nerve reflexology is performed with the ulnar side of the distal phalanx of the thumb. Use a static firm pressure and keep pressing until pain in the point has vanished or a maximum of 15 seconds have passed.



Nerve reflex points for the spinal nerves

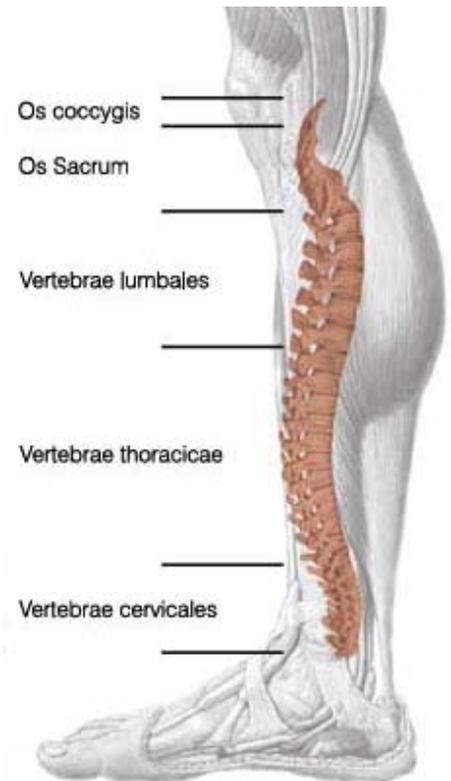


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Selected reflex zones from the Karl-Axel Lind method



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The spine in Karl-Axel Lind's method, system II

Reflexology treatment of the female

Reflex zones

Method

Comments

⌘ = Classic reflexology
 = Marquardt school
 Ž = Nerve reflexology
 = Karl-Axel Lind

Background reflex zones

Uro-genital system kidney, urether, bladder and urethra	⊕	close connections both embryological and anatomical between the urinary and genital system. Both develop from a common ridge in the embryonic layer called mesoderm.
plexus renalis	Ž	Innervation of the kidneys
Immune system	⊕	ongoing or past infections in genital organs and allergic reaction to the male sperm are common factors in infertility
Pelvic muscles		
m. psoas major	Ž	relaxation of muscles and tendons,
pelvic floor	⊕	increased blood flow ⇒ heat
Large intestine	⊕	constipation can influence reproduction because colon and the genital organs lie close together
Stress release	⊕	use the stress release program you prefer with special attention on the direct and indirect solar plexus reflex zones
Cleansing	⊕	use the reflex zones you prefer, with special attention to small and large intestine

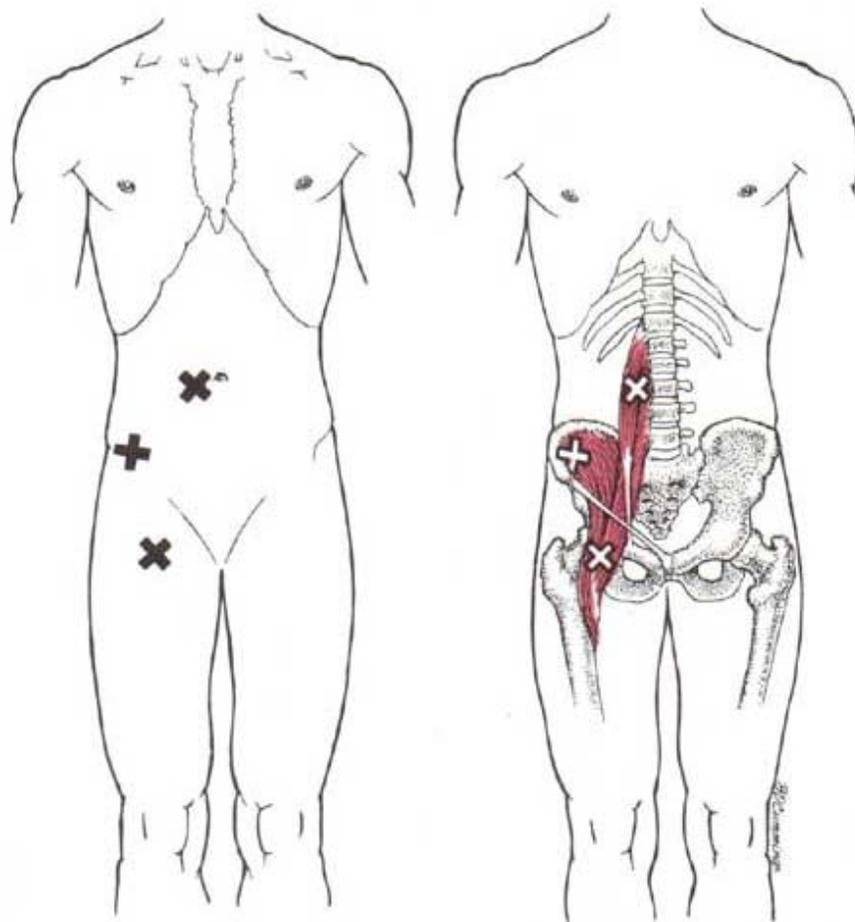
Symptomatic reflex zones

Hormonal system hypothalamus, pineal, pituitary, thyroid, adrenals, pancreas, ovary	⊕	pay special attention to the pituitary and ovaries, bearing in mind how common PCO is at infertility
Genital organs		
spine T10 – S3	⊕ Ž	spinal origin of autonomous as well as motor innervation of the pelvic region
plexus pudendus	Ž	innervation of muscles in the pelvic floor
plexus utero-vaginalis	Ž	innervation of uterus and the vagina
plexus ovaricus	Ž	Innervation of the ovaries
uterus	⊕	
vagina	⊕	
ovary	⊕	
fallopian tubes	⊕	tubes are very important even when medical examinations show no problems. Goal: optimise condition of the mucous membrane
teeth: the four front teeth in both upper and lower jaw		energetic connections to the uro- genital area

Trigger points

Trigger points for the ilio-psoas muscle.

Trigger points are neuro-vascular points, that by pressure stimulation bring about an immediate relaxation of the related muscles. Trigger points are found all over the body located close to the muscles they influence.



Trigger points for m. iliopsoas

Reflexology treatment of the male

Reflex zones	Method	Comments
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Æ = Classic reflexology
 = Marquardt school
 Ž = Nerve reflexology
 = Karl-Axel Lind

Background reflex zones

Uro-genital system kidney, urether, bladder and urethra	Æ	relation between kidneys and testes. close connections both embryological and anatomical between the urinary and genital system
plexus renalis Immune system	Ž Æ	innervation of the kidneys it is very important that the immune system is strong, because the sperm is very heat sensitive – fever will kill it. Current or earlier infections in the genital organs may also cause problems
Cleansing	Æ	pay special attention to the liver.
		Semen quality is influenced by environmental chemicals and

Stress release	Æ	toxins. Men who work in the metal industry have a high degree of sperm damage. use the stress release program you prefer with special attention on the direct and indirect solar plexus reflex zones
Symptomatic reflex zones		
Hormonal system	Æ	highest priority on pituitary and testes
Hypothalamus, pineal, pituitary, thyroid, adrenals, pancreas and testes.		
Genital organs		
Spine T10 – S3	Æ Ž	spinal origin of autonomous as well as motor innervation of the pelvic region
plexus pudendus	Ž	innervation of muscles in the pelvic floor
prostate, testes, outer genitalia	Æ	
teeth: the four front teeth in both upper and lower jaw		energetic connections to the urogenital area

The treatment schemes presented above represent my way of working with reflexology and should be used for inspiration rather than the only true way to proceed. Every therapist has a unique method and many other reflex zones and systems could be used including meridians, five element theory, etc

Treatment interval

Male

In the case of male infertility following certain treatment intervals is not crucial. Men usually don't need as many treatments as women. Somewhere between 6 and 10 successive treatments and then once a month. Ask them to continue dietary, vitamin and mineral advices and 3-4 months after the first treatment they can have another sperm count test. Further treatments depend of the result of the test.

Female

In the first part of the treatment course, 6-10 treatments, I don't follow certain intervals, normally one or two sessions a week.

When the background reflex zones have gone or improved, I continue with certain intervals:

If there is hormonal problems, for example connected to ovulation, I treat close to the day before menstruation because the egg starts to mature at the 21st. day of the preceding cycle. And the next treatment 5-7 days before ovulation.

If it is more a matter of improving and relaxing the energy circulation and relieve congestion in the pelvic region, I treat two times between menstruation and ovulation, the last time 2-3 days before ovulation.

Insemination

During the period of artificial hormone stimulation, I don't treat the hormone system to avoid disturbing the medication.

The last treatment is 2-3 days before ovulation.

IVF (In Vitro Fertilisation)

As with insemination I avoid treating the hormonal system in the time of hormone stimulation.

The last treatment before eggs are taken out is about 5-7 days before.

I do a treatment on the day after egg retrieval, when the egg is fertilized in the testtube, to relax and drain the genitals. Many women are tens from the discomfort or pain during the procedure or irritated by the fluid used to flush out the eggs from the ovary.

I don't treat after the embryos have been transferred to the uterus, unless it is a distinct wish from the client. I think it could be a god idea to do so, but it is a very mentally sensitive situation - if the woman did not become pregnant, was it then because of the reflexology treatments?

Spontaneous pregnancy

Reflexology is an effective way to treat infertility, and of course we should be credited when it is successful! But we should also be aware of the fact that time does affect the outcome. It has been shown that within 2 years 20 percent "infertile" women become pregnant without treatment, after 6 years the rate is 40 percent and after 10 years 42 percent of the unexplainable infertile will be pregnant.

Nutrition, vitamin and mineral supplements

During a period of 3-6 months it is a good idea to give the body as good a condition as possible.

Avoid:

- Dairy products - they may irritate the mucous membranes.
- Simple carbohydrates and coffee - research from England indicates that coffee has a negative influence on the reproductive process, even though this is still being discussed.
- Of course, tobacco.
- Alcohol - whether a moderate consumption of alcohol is harmful or not is being debated. Some studies show that up to 14 units a week does not influence fertility, whereas others suggest a negative effect of even small quantities of alcohol.

Use:

- Organically grown food. The quality of our food is a life essential part of the wholeness. Several studies have shown that especially the quality of semen is influenced by agro-chemical substances. The result of the studies are still being discussed, but as long as we are waiting for proof, we must act from indications.
In England the so called Foresight association has a programme for promoting preconceptional care. The programme helps prepare the body for pregnancy by cleansing out heavy metal deposits, infections, restoring the vitamin- and mineral balance, treating allergy and using biological and bio-dynamic food. Experience from 367 couple has shown a positive effect .

Vitamins and minerals

Female:

- High-potency multi vitamins
- Vitamin C 500 - 1000 mg pr. day
- Vitamin E, 400-800 IU a day
- Flaxseed oil, 1 tablespoon a day
- Zinc 100 mg pr. day
- Betacarotene 200.000 IU a day (vitamin A in higher dosage can be toxic in case of pregnancy)
- Supplement of iron, but have the haemoglobin level checked beforehand.

Male:

- High-potency multi vitamins
- Vitamin C 500 - 1000 mg pr. day
- Zinc 100 mg pr. day
- B12 vitamin 2000 milligram

In the case of vaginitis use:

- Lactobacillus capsules to reinoculate the vagina with these organisms
- Echinacea augustifolia tincture, 1-1,5 tsp three times a day
- Vitamin C, zinc and betacarotene as recommended above
- Topical treatment: Dousch with lactobacillus pp. ½ tsp. in a cup of warm water
- To avoid reinfection abstain from sexual activity during the treatment, or the man should be treated as well.

There exist on the market a large number of different nutritional supplements that may have a positive effect. All therapists probably have their favourites to recommend their clients.

Reflexology research into infertility in Denmark

The Danish Reflexologists Association, FDZ, has carried out one study on infertility in 1989-90.

Out of a group of 61 women who completed the study, 15 percent became pregnant within the first 6 months after starting treatments.

The average age was 30.2 years - and the women had attempted to become pregnant in an average of 6.7 years. 77 percent had been treated within the conventional health system.

FDZ authorized reflexologists, performed 16 treatments over a 7 - 8 month period. Treatments were given 2 times weekly for 4 weeks, then 2 treatments before the ovulation - depending on the women's menstruation cycles i.e. from the 5th to the 12th day.

I would like to mention two other projects that is planed but not yet started out(2003). The FDZ Research Committee is still looking for funding of the projects:

"Reflexology's influence on semen quality"

"Reflexology and disturbed menstrual cycle caused by PCO"

Responsible for the two projects is Lone Schuman, FDZ Research Committee

References

- www.netdokter.dk
- Human Reproduction, <http://humrep.oupjournals.org>

- Maigaard Fertility Clinic, Aarhus, Denmark
- Woo, B. and Branch, W.T. "Vaginitis" in Branch, W.T. Office Practice of Medicine, W.B. Saunders, Philadelphia, 1982 pp. 461-70
- Holmes K.K. The chlamydia epidemia, A.M.A. 1981, 245, pp. 1, 718-23
- Alice D. Domar, Director of the Women's Health Programs at the Mind/ Body Institute at Harvard Medical School
- www.holistic-online.com
- Marquardt Hanne, Reflexotherapy of the feet, Thieme, Stuttgart, 2000. www.fussreflex.de
- Nico Pauly, E-mail: nico.pauly1@pi.be
- www.medikanova.fi (In Finish language only)
- Jan Langmann, Medical embryology, Williams & Wilkins, 1979
- Dr. Reinhold Voll, Germany, www.eav.de
- www.foresight-preconception.org.uk
- www.fdz.dk
- FDZ's Research Committee may be contacted at: fr@fdz.dk

Other references

- Murray, Michael T.: Encyclopedia of Nutritional Supplements, Prima Publishing, 1996
- Touchpoint, Centre for Continuing Professional Development in Complementary Therapies, Denmark, www.touchpoint.dk