

# Manual Osteopathy, an Alternative Look at Treating Infertility in Women

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## *Introduction*

In today's society, there is an increasing population of women who are suffering from infertility. In Canada, one in six couples are affected by infertility, and from those cases, there is a 33.3% chance it is attributed to female factors and another 33.3% that it can be a combination of male and female factors<sup>14</sup>. The prevalence of infertility has risen and so the need for treatment intervention is at its all time high. When a couple has to face infertility, they often opt for high tech management techniques such as hormone therapy, in vitro fertilization (IVF) or intrauterine insemination (IUI). Other courses of action include surrogacies and adoption. Many of these methods require a lot of a couple's time, money, and mental capacity. The former methods can also be invasive and demanding on the body. Fortunately, there are innovative, non-invasive, nonsurgical manual techniques that help to treat infertility with little risk and few adverse side effects or complications. These types of techniques are considered as alternative treatments. They include, but are not limited to, acupuncture, herbal medicine, homeopathy and osteopathic manual therapy (OMT). OMT is a type of hands-on manual therapy structured to rid the body of osteopathic lesions using non-invasive and holistic techniques. The demand for alternative therapies are growing as people are searching for more wholistic and natural ways to boost the functioning of their reproductive system.<sup>9</sup> The focus of this paper will be on osteopathic manual treatment (OMT) and how it can be used as an option to tailor fertility management for couples who want to optimize their chances of success without gearing towards unnecessary, expensive and demanding treatments<sup>12</sup>. There has been a lot of research advocating for this type of infertility treatment. My goal is to deliver precise and well researched data on the topic with the intent to promote the idea that age-related infertility as well as unexplained and mechanical infertility in women may benefit from OMT approaches.

## *Foundation of Osteopathy*

Osteopathy was founded by Andrew Still in 1874. He proclaimed that a perfect body would be able to heal itself and would contain within it the means to do so<sup>15</sup>. Although, we don't necessarily adopt the idea of a "perfect body" anymore, the idea that the body has the innate ability to heal itself is still grounded in OMT to this day. To get an idea of OMT, we'll start with the basic foundation of principles that govern osteopathy. There are four principles: 1) the body is a unit; 2) structure governs function and function governs structure; 3) the body is self-regulating; and 4) the body is designed to defend and heal itself. When treating someone who is facing infertility, osteopathic manual practitioners will treat their body as a whole functioning unit and not just at the problematic area. One of the main differences between OMT and other forms of hands on therapy is that they are looking for underlying issues that can often be overlooked and may be causing more superficial secondary issues. If the underlying issue is not identified and treated first, then the effects of treatment will only be temporary.

## *Applying the Foundation of Osteopathy to Infertility*

The pelvic and abdominal region is the area of focus when treating infertility, however, a manual osteopath will work on other parts of the body such as the skull and intrinsic systems such as the adrenal or hormonal systems. If there is a problem in structure, may it be at a joint, a muscle or an organ, the function of that structure will be impaired and vice versa. That being

said, this is very important when considering fertility and conception. For example, in some cases, the uterus may be displaced posteriorly. If the structure of the uterus is compromised as it is in a retroverted uterus, it will affect the venous drainage and lead to pelvic congestion reducing the functionality of the uterus' innate ability to conceive. The body is self-regulating. Infertility places a very challenging and strenuous demand on the body. If the body is under stress related to infertility than it reduces the body's homeostatic capability causing an infertile environment for conception to take place. The body is designed to defend and heal itself. Manual osteopathy works as a catalyst to your body by helping create the most optimal and habitual environment so that your body can access its innate ability to reproduce. Manual osteopathic therapists base the foundation of their work off of these four principles when treating infertility. To comprehend how OMT will help an infertile woman become pregnant, it is crucial to have a full understanding of these four principles and how to apply them to treatment.

### *Infertility*

According to the International Committee for Monitoring Assisted Reproductive Technology (CARTR), World Health Organization and Centers for Disease Control and Prevention, the inability for women in their childbearing years to conceive after 12 months of regular, unprotected sexual intercourse are considered to be infertile <sup>1,12</sup>. Kramp (2012) stated that 15% of couples worldwide were deemed infertile and out of that 15%, 27% of infertility is due to ovulation disorders, 25% is due to male factors, 22% is because of tubal disorders, 17% is unexplained, 5% is because of endometriosis and 4% are because of other factors <sup>1</sup>. Similarly, Wurn et al., (2004) identified out of the approximate 5 million infertile women in the United States, it was estimated that 2 million (40%) have medical or hormonal infertility, 1 million (20%) have idiopathic infertility and 2 million (40%) have mechanical infertility <sup>2</sup>. The main causes for infertility are problems associated with the pelvic region, hormonal imbalances and emotional stresses. OMT relieves osteopathic lesions within the body, whether that means releasing pelvic muscle tension, re-alignment of the pelvic girdle, releasing pelvic organ adhesions or addressing issues stemming from the central nervous system such as re-establishing proper flow of cerebral spinal fluid through the dura tube. Fixing these sort of issues enables normal functioning which aids approximately 80% of the infertile population, thus contributing a large portion of fecundate possibilities through OMT.

Although, in this day and age, we are well equipped with modalities and technology to deal with such occurrences, but what happens to the women who do not have the accessibility or luxuries to obtain such high-end modalities? We are still continuously being challenged with increasing rates of infertility. The presence of OMT offers a more affordable, convenient and time saving alternative to fertility management. Data in the CARTR on the use of assisted reproductive techniques show a steady increase in the number of procedures performed between 1999 and 2008 <sup>3</sup>, with similar increases observed all around the world. More evidence indicates the number of IVF cycles have increased from 35,450 to 60,473 between 2000 and 2011 in the UK with more than 50% accounted for by unexplained infertility <sup>12</sup>. This increase may be due to delayed childbearing. A growing number of couples in Canada are delaying childbirth. Since 1984, the percentage of first-born children whose mother is 35 or older has tripled to 11% <sup>3</sup>. There is an abundance of research that confirms that female fertility decreases with age. More accurately, there is a significant drop in fertility rates as well as increased risk of miscarriage

after the age of 35. Given the trend toward delayed childbearing and the presence of risk factors for infertility, the demand for medical help to conceive may be even greater now and in the future. As mentioned earlier, more and more couples are turning to alternative, natural therapies to conceive. With the increasing need for fertility treatment, OMT is increasing in awareness by yielding consistent, and successful results.

We now ask the question; how does osteopathic manual therapy treat infertility? OMT is a highly effective, result oriented, and safe method with no adverse side effects and no risk of trauma, unlike other, more invasive fertility procedures. OMT aims to achieve natural fertility through boosting the functioning of the body as well as its reproductive system through wholistic techniques <sup>11</sup>. OMT ideology follows the theory that manual mobilization has an impact at the cellular level and to understand the benefits of manual therapy for infertility, we must perceive that the reproductive environment is one with the cellular level and the reproductive anatomy is at the level of tissue <sup>1</sup>. By working at the tissue level, OMT will ultimately effect the reproductive environment at the cellular level. As mentioned before, this is in accordance to the principle that structure and function are interrelated.

#### *Physiological Factors of Infertility and how OMT can help*

Osteopathic treatment for infertility helps increase functioning of the musculoskeletal system, the pelvic bones, hormones and the circulatory system as well as the release of emotional stress through the use of musculoskeletal, craniosacral and vascular osteopathic methods. To understand the mechanics behind the treatment, one should first comprehend the physiological factors of infertility. Just as ligaments are important in the structure and function of a joint, they are equally important in the mobility and function of the pelvic organs. The uterovesical ligaments attach the bladder to the uterus and the uterosacral ligaments help to suspend the uterus posteriorly <sup>1</sup>. Everything is interconnected, therefore, the uterus, fallopian tubes and the ovaries are very vulnerable to displacement by the bladder and intestines. These structures are already very mobile and play a critical role in conception. If they are displaced, it can obstruct drainage and cause congestion within the pelvic or abdominal region. Lack of mobility and motility of these structures could also effect hormonal balance and flow which can cause an infertile environment for conception <sup>4</sup>. The application of OMT may improve and optimize physiological function which can alleviate somatic dysfunctions and improve quality of life <sup>10</sup>.

Infertility can be caused from a variety of things, some of which can not be fixed through alternative medicine or therapy. However, faulty mechanics or incorrect body posture can lead to physiological lesions and symptoms such as pelvic congestion that can lead to risk of infertility. It is crucial to remove the pressure being placed on the lower cavity due to poor body mechanics. Some of the poor mechanics that may impede conception include <sup>5</sup>:

1. A low diaphragm
2. Ptosis
3. Lack of diaphragmatic pumping due to a slouched figure causing congestion of the organs in the lower abdomen and pelvic region
4. Weakened pelvic floor muscles causing malposition of the uterus

All of which will disappear once the body mechanics have been sufficiently corrected <sup>5</sup>.

Improper posture is something everyone should be aware of. If infertility is due to mechanics,

OMT can adjust so that the mechanics are back to an optimal environment for conception to take place.

Some mechanical factors of infertility can be traced to scar tissue and fascial restriction including pelvic adhesions<sup>4</sup>. Pelvic adhesions are deposits of fibrous tissue that form as a natural inflammatory response to tissue damage after surgery, infection, inflammation or trauma. This by-product may adhere to a close by organ or muscle, either within the myofascial structure of the organ, on its surface, or as an attachment to neighbouring structures. These adhesions can distort the anatomy and cause decreased mobility and function of pelvic organs<sup>4</sup>. Adhesions are known to accompany related infertility conditions such as endometriosis, pelvic inflammatory disease and tubal obstruction<sup>2</sup>. Mobilization of soft tissue may break collagenous cross links and adhesions that cause pain and dysfunction including physician diagnosed mechanical infertility<sup>12</sup>. Release of fascial and ligamentous restrictions can also decrease pressure on blood vessels, thereby optimizing the vascular system and improving the efficacy of the lymphatic system. The lymphatic system plays a crucial role in fertility. For conception to take place, the lymphatic system has to be working at optimal levels to accurately deliver hormones to the desired target as well as the required drainage, filtration and transportation of interstitial fluid to take place. During conception, there is an influx of hormones required as well as an increase in blood flow to the participating organs. If the lymphatic system is impaired, it can lead to hormonal bias and dysmenorrhea, menorrhagia, premenstrual syndrome, ovarian cysts, emotional instability and depression<sup>13,5</sup>. OMT aids in the decongestion of the lymphatic system and can help remove waste from the organs, restore flow to the target organs and normalizing the ability for optimal hormone production and delivery. Through soft tissue therapy and mobilization of the visceral organs this can all be achieved<sup>11</sup>. This will lead to normalized hormone levels, normalized menstrual cycles and eventually pregnancy<sup>1</sup>.

### *Role of Craniosacral Therapy*

During OMT infertility treatment, craniosacral work is highly recommended to release congestion and encourage drainage. During this type of work, the focus is on the pelvis region and on the skull of the female. Through the skull, the physician enables a natural rhythm of spinal fluid, stimulates hormone release and smooths the functioning of supporting structures<sup>11</sup>. The skull contains many important structures that can affect conception, mainly the hormone regulating structures such as the hypothalamus and pituitary gland. These two structures can be easily affected by the bones and connective tissues in and around the skull. Congestion of the head may lead to improper drainage and blood supply that is necessary for glands to communicate properly to the rest of the body<sup>4</sup>. Craniosacral manual therapy increases the chance of conception by: 1) stimulating pelvic organs enhancing mobility; 2) encouraging the release of hormones required for achieving fertility (from the cranial, ovary, thyroid and pituitary glands as well as the hypothalamus); 3) enhancing the respiratory system; 4) improving circulation; 5) and increasing elimination factors<sup>11</sup>.

### *Intervention Protocol*

Below is a recommended intervention protocol that contains some assessments of the major findings that contribute to infertility in women. The protocol assesses each common

barrier and corrects it with a specific technique under the OMT principles. The protocol is assembled as a combination of previous studies that were conducted to determine the effectiveness of OMT on infertile women. It is assembled from all the successful studies that delivered full-term pregnancies <sup>11,8,5,7</sup>.

- Assess for pelvic asymmetry and correct with muscle energy techniques and musculoskeletal mobilizations
- Assess sacral mobility and correct dysfunction with craniosacral therapy
- Assess for trigger points around and within the pelvis and treat trigger points with positional release techniques
- Assess for lymphatic drainage of pelvis and pelvic organs and apply manual lymph node drainage techniques
- Assess mobility and motility of the uterus and use fascial techniques to release restrictions (visceral therapy)
- Assess mobility and motility of colons (including cecum, ascending, transverso mesocolon, descending and sigmoid mesocolon) and use fascial techniques to release (visceral therapy)
- Assess movement of the peritoneum and use craniosacral therapy to restore movement
- Assess vertebral column and use musculoskeletal mobilizations to traction and mobilize (especially S5, L1 and L2 vertebra)
- \*\* with treatment of the ovaries, corrections should be made in the area of the lower dorsals and lower ribs\*\*

It is recommended to follow this regimen two times a week until re-evaluation reveals unrestricted mobility, symmetry in the pelvis and normal lymph and blood flow <sup>11</sup>.

### *OMT Benefits and Results from Collected Data*

After collecting information and data from multiple studies, a common trend was identified. That trend was a substantial success rate of full term live pregnancies after a small amount of OMT sessions. In Kramp's (2012) study, 6 out of 10 infertile women conceived single pregnancies within 3 months of treatment and delivered full term <sup>1</sup>. The median number of treatment sessions for conception to take place was 2.8. This fertility rate of 60% within a 3-month period is the same as that of fertile couples. In a study conducted by Wurn et al., (2004), of the 10 out of 14 subjects who became pregnant, 9 conceived pregnancy before receiving the full 20 hours of recommended therapy sessions. The duration of the therapy sessions ranged from 1 to 24 weeks with a median of 11 hours overall therapy time <sup>2</sup>. In a study conducted in 2016 by Ruffini et al., results concluded that the proportion of infertile women who conceived at the end of the osteopathic period of treatment was 60%, similar to the study conducted in 2012 <sup>6</sup>. However, a major limitation was found in this study where among the successful fertility rate, the successful delivery rate as well as pregnancy complications were not systematically and clearly defined.

### *Comparison of OMT with other Methods of Infertility Treatment*

It is evident that OMT appears to be an effective treatment for facilitating natural fertility and improving pregnancy rates, but what about the more clinical and conventional treatments such as IVF and IUI. They are still very popular and high in demand but before couples jump

into a treatment that is invasive, demanding, expensive and time consuming, they should be considering a less invasive, low-risk, convenient alternative like OMT<sup>11</sup>. The former treatments require repetitive treatment and require multiple sessions for fertilization to actually take place and carry risk for infection, whereas OMT requires less time to increase the chances of pregnancy and carries no risk of infection or trauma. OMT is also less expensive and is most often covered by all major insurance companies. The success rates for conventional treatments such as IVF have a median cost of \$24,373 per treatment and only has a success rate of 38%. They also have a higher rate of multiple births which can put the mother and the fetus at more of a risk during the pregnancy and place more stress on the mother after the pregnancy<sup>1</sup>. Hence the growing demand in alternative therapy such as OMT.

### *Discussion*

OMT is a beneficial alternative to conventional treatment methods of infertility. OMT should be considered as a new adjunct to existing medical infertility treatments. The success rates are that of a fertile couple and it carries little risk with no complications or adverse effects. The mechanisms behind the therapy are natural and comply with self-regulation and self-healing principles. It is important to look beyond the most obvious clinical endpoints of fertility treatment to find out there are other low risk, cost efficient and natural ways to encourage a safe and healthy pregnancy.

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