

**Osteopathic treatment of primary  
dysmenorrhoea:  
possible consequences**

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## **ABSTRACT**

The goal of my paper is to show the effect of osteopathic treatment on primary dysmenorrhoea.

In the course of my dissertation women with primary dysmenorrhoea underwent osteopathic treatment and the effect of this on the progress of their illness respectively the side effects of this were evaluated.

The paper comprises a medical description of primary dysmenorrhoea and an overview of basic aspects of the anatomy and physiology of the female cycle. In addition the main examinations and treatments carried out are explained as well as the effects that these have on the progress of illness.

The clear results of my study show that osteopathic treatment alleviates the pain of primary dysmenorrhoea and has a positive effect on the most common side effects associated with this.

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## 1. FOREWORD

Even today primary dysmenorrhoea is an issue surrounded by a lot of taboos.

It was a matter of personal concern for me to illustrate that the pain involved can be alleviated, and the side effects reduced, via osteopathic treatment.

I would like to thank my mentor, Bernard Ligner; my husband who gave me a helping hand, my mother and my mother-in-law who looked after our sons, whilst I was working on my dissertation.

## 2. DEFINITION

Primary dysmenorrhoea is the term given to convulsive pain in the lower abdomen respectively in the small of the back. It commences with or during menstruation and sometimes even one to three days prior to menstruation.

This pain is experienced as of adolescence and recurs in cycles. It is experienced by women to a greater or lesser extent in the form of a malaise. Dysmenorrhoea is often introduced by, but not always, premenstrual complaints. The pain is linked to the ovulatory cycle.

According to Rabe<sup>1</sup> (1990) „anatomic causes are often overrated and very often these are accompanying findings. The excessive formation of prostaglandin in the endometrium would seem to be of greater significance. This results in a hyperactive uterus muscle which leads to convulsive pain“.

The excessive production of prostaglandin by the endometrium during menstruation triggers off the hypercontractility of the uterus. This leads to ischemia and hypoxia of the muscles of the uterus which are mainly responsible for this pain.

According to E. Berninger-Schäfer and W. Larbig<sup>2</sup> pathophysiological considerations concerning dysmenorrhoea assumes the increased contractility of the myometrium which in turn disrupts the circulation of blood leading to convulsive pain. The visceral nociceptors are located in the muscular hollow organs of the entrails, they react to the passive expansion and active contraction of the smooth muscles. Due to the local lack of blood circulation in the ischaemic uterus muscles chemical stimuli intensify the pain. In biochemical terms this would trigger off menstrual pain as a result of an increase in the concentration of prostaglandin and in physiological terms as a result of the uterus contracting, an uterine hypoxia, ischaemia and a reduction in the pain threshold.

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1 Rabe T. 1990. Gynäkologie und Geburtshilfe. VCH. Stuttgart. p109

2 Elke Berninger-Schäfer and Wolfgang Larbig, Menstrual Pain, p. 11, 13

In my opinion bone, muscular and visceral causes play a major role which lead to a pain-induced ischaemia.

The changes in the female body prior to and during menstruation should be taken into consideration which intensify any lesions which already exist.



### **3. PROBLEM – HYPOTHESES – TARGET**

#### **3.1. Problem**

As many women come to my practice and complain about pain and complaints while having the menstruation I felt the need to find out more about the following question:

Which possible consequences does osteopathic treatment have on primary dysmenorrhoea respectively can osteopathic treatment alleviate the pain and reduce the side effects?

I think, it is a big issue of womanhood how to handle the pain.

It was important to me to consider how different women experience the pain, because I think that the way how women handle the pain plays an important role in primary dysmenorrhoea. Due to requirements of everyday life and the personal surroundings only a few women experience their menstruation as painless and easy.

Primary dysmenorrhoea is always just mentioned briefly in medical books, most patients get hormones to ease the pain but hardly any texts discuss, in how far these remedies harm the body (mainly the liver).

I couldn't find any information on primary dysmenorrhoea in osteopathic literature.

#### **3.2. Hypotheses**

Holistic osteopathic treatment of primary dysmenorrhoea enable us to ease

1. the pain
2. the side effects

It is possible to evoke positive effects by medical treatment at all levels of the body and by taking the whole complex of the illness primary dysmenorrhoea into consideration.

### **3.3. Aim**

It should be shown that osteopathic treatment has a positive effect on the pain and the side effects of primary dysmenorrhoea.

My dissertation tries to show that osteopathic treatment can strengthen the patients' inside so that the way how the patients handle the pain and side effects and the way they themselves experience the pain changes.

## 4. EXPLANATION OF THE RESEARCH WORK CARRIED OUT

10 women underwent osteopathic treatment. They received treatment prior to menstruation for a period of 6 months.

The control group comprised 10 women whose blood pressure was measured and who did not receive any osteopathic treatment.

The patients were selected on the basis of the following criteria:

- Aged between 18 and 35 years
- Patients with no children
- Non-smokers
- Currently not taking the pill
- Currently not fitted with a coil
- no hormonal problems
- No organic problems such as: endometriosis, tumours, inflammations, cervixstenosis, deformations of the uterus
- no medication

## 5. BASIC PRINCIPLES

### 5.1. Anatomy

In the following chapter I refer to the script on the skull by Turner<sup>3</sup> (1997) and my notes of his speech. When it comes to the description of the anatomy and physiology I have restricted myself to the most important points of my dissertation.

#### 5.1.1. Cranium

The cranial movements should take place 8 – 14 x per minute. These produce an antero-posterior reduction with a simultaneous lateral expansion and as a result to an antero-posterior extension and a lateral narrowing.

##### 5.1.1.1. Bone connections to the occiput

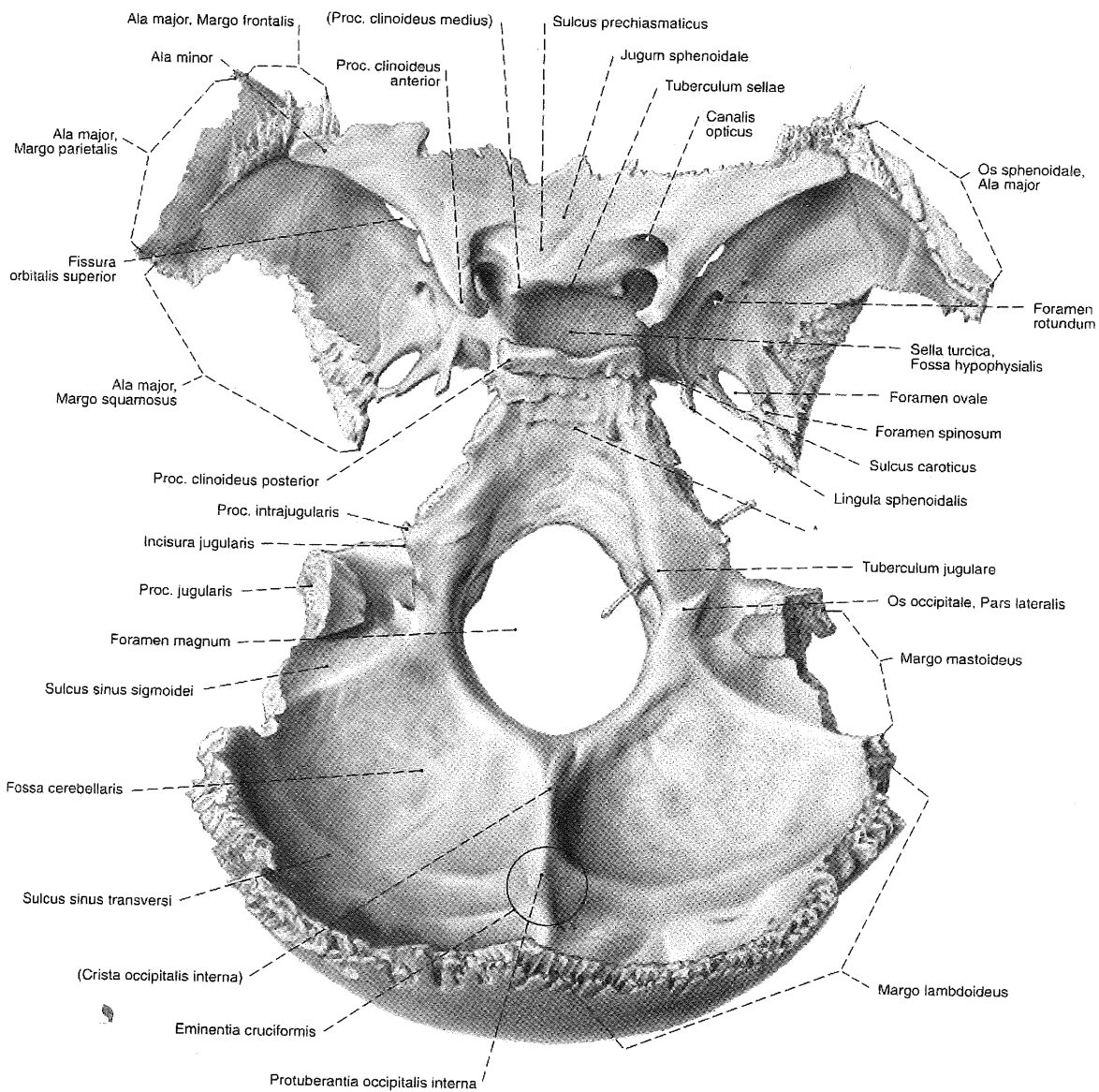
- **Sutura sphenobasilaris:** the basis of the occiput with the corpus os sphenoidale. As soon as the movement, or the connections, of the sphenoid are disturbed this can have an effect on the function of the hypophysis.
- **Sutura petrobasilaris:** pars basilaris of the occipitus with the pars petrosa of the temporale
- **Sutura petrojugularis:** processus jugularis, articulates with the fossa jugularis of the os temporale; in the **foramen jugulare** the discharge of the vena jugularis (90% of arterial blood) and the cerebral nerves (IX,X,XI) are located as is the inlet of the A. meningea posterior. As a result these two cerebral nerves are strongly influenced by the movability of the occiput and the os temporale.
- **Sutura occipitomastoidea:** the occiput with the processus mastoideus of the os temporale

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3 2. Ausbildungsjahr-6.Seminar-1996.Turner S.Cranialosteopathie.Skriptum und Mitschrift.Der Schädel.WSO.1996

- **Asterion:** this is where the os occiput, temporale and parietale meet
- **Sutura lamboidea:** superior and medial the occiput borders on the two ossa parietalia
- The **clivus** is located on the basis occipitalis which supports the gliding movement of the pons and the medulla. The confluens sinuum lies on the squama occipitalis and is formed by the dural membranes and the venous sinuses. The sinus transversalis follows lateral, superior the channel of the sinus sagittalis superior.

The dura mater is attached to the foramen magnum, on C2, C3 and the 2<sup>nd</sup> sacral vertebrae. Thus dysfunctions in the cranium or sacrum have an effect on each other.



**Figure 1**

### 5.1.1.2. Ventricular system

The bottom of the fourth ventricle lies on the pons and the medulla. This is where the nuclei of the cranial nerves lie: III-IV. The roof is formed by the cerebellum.

The third ventricle has the epiphysis on its back, on the bottom the pituitary gland and the chiasma opticum and the lamina terminalis on the front side.

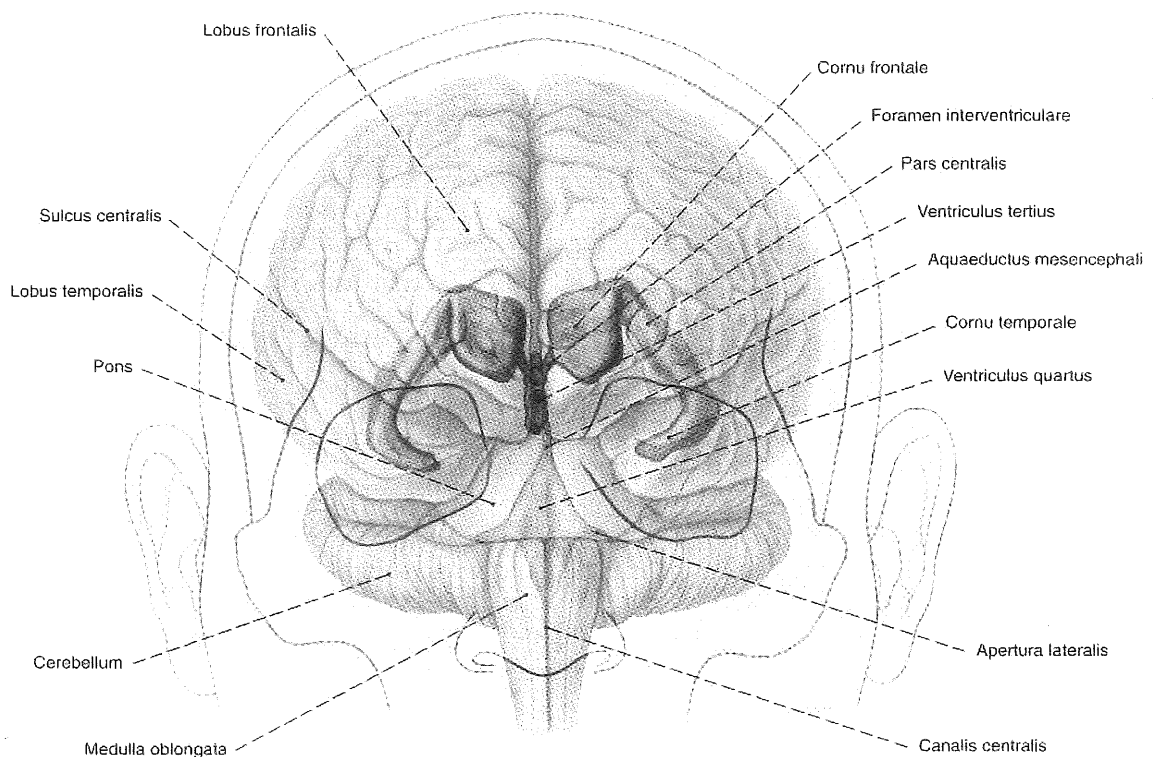


Figure 2

### 5.1.1.3. Movement of the synchondrosis sphenobasilaris

The occiput rotates around a transversal axis. During flexion its anterior surfaces rise upwards, whilst the sphenoid carries out the opposing rotation in a synchronous fashion.

Because of lesions on the synchondrosis sphenobasilaris there can be a changed circulation of the liquors and also changed tensions of the membranes. These dysfunctions can also lead to a changed hormonal balance.

## **5.1.2. Uterus**

The following chapter is based on information of the script "Viszerale Osteopathie, Uterus" by B. Ligner D.O.<sup>4</sup> (1999) and my notes of B. Ligner's speech<sup>5</sup> (1999) on the uterus.

### **5.1.2.1. General information**

The uterus is very mobile. It moves during pregnancy, the menstrual cycle, the sexual act, and certain types of sport.....

The uterus lies under the peritoneum, behind and above the bladder, in front of the rectum and above the vagina. For the most part it is in anteflexion and anteversion.

The mobility of the uterus is limited by the peritoneum, vessels, ligaments and the perineum. The superior-anterior part of the uterus is separated from the small intestine lying above this by the peritoneum.

The organ comprises three layers:

- 1) Parametrium (=peritoneal covering), which supplies the blood vessels, nerves, lymph vessels and serves to anchor this to the pelvic wall.
- 2) Myometrium (=muscular layer)
- 3) Endometrium (=mucous membrane)

### **5.1.2.2. Innervation and vascularisation of the uterus**

- Nerves from the **plexus hypogastricus** (=nerve plexus of symphatic and parasymphatic fibres) run from the posterior with the vessels, along the lamina sacro-recto-genito-pubilalis and thus make their way to the uterus via the parametrium.
- The blood is supplied as follows: the arteria illiaca ,interna supplies the entire inner pelvic area. The a. uterina emerges from here. The a. ovarica arises directly from the aorta and runs the same course as the

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4 5. Ausbildungsjahr-2.Seminar-1999.Ligner.Beckenorgane.Skriptum und Mitschrift.Die Beckenorgane.WSO.1999

5 2.Ausbildungsjahr-6.Seminar-1996.Turner.Cranialosteopathie Skriptum und Mitschrift.Der Schädel.WSO 1996.



lig. suspensorium ovarii. The anatomic progression alone shows us how important the correct bone position and muscular tension are for the arterial supply of the uterus.

- The veins have no valves and branch widely. The venous backward flow from the left ovary is performed via the vena ovarica into the left vena renalis. On the right this drains directly into the v. cava inferior.
- The plexus lymphaticus progresses in the parametrium.

### 5.1.2.3. Anchoring systems

#### 5.1.2.3.1. There are suspension systems for the upper uterus :

The pelvic peritoneum is pulled superior upwards, it covers the greater part of the uterus (particularly the fundus), it forms the excavations and the **ligamentum latum** via the lateral unification of its anterior and posterior membrane. This pulls backwards below and outwards and gives the uterus its lateral stability.

It comprises two parts:

The upper part, the mesometrium, is moveable and elastic. It is strengthened by the: lig. teres, lig. proprium ovarii.

The lower part is the denser and more firm parametrium (with connective tissue well supplied with blood and with connections to the muscle fibres). This is reinforced by the **lig. sacro-uterina**. If the lig. latum is solid this results in a fixed area in the uterus.

The **lig. teres**, which go steeply forwards and outwards, give the uterus their orientation. They are secured to the tube angles of the uterus, and pull under the peritoneum with the nervus genitofemoralis and ilioinguinalis to the inner abdominal ring.

It is logical that a deeper os pubis also brings the uterus lower down on one side which creates tension and traction in the uterus with its suspension system.

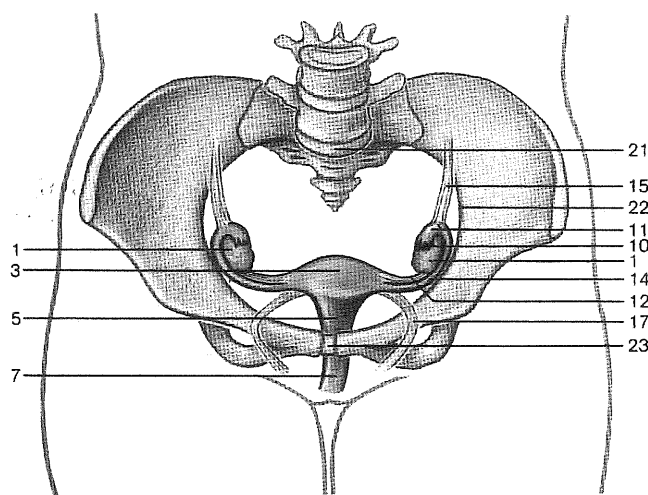
According to Molinari<sup>6</sup> (1999) around 94% of all women have a uterus with side bending and rotation to the same side.

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6 6.Ausbildungsjahr-1999.Molinari.Schwangerschaft.notes.WSO-Maidstone.1999

According to Barral<sup>7</sup> (1993), apart from the lig. uterosacrale and the parametrium, all the ligamenti of the uterus, the tubes and the ovaries can be called fixations in the vaguest sense of the word. They continue to allow mobility.

Moreover the ovaries control the cycle and influence the whole female body mainly through oestrogen.



Lage der inneren Geschlechtsorgane bei der Frau (Schemazeichnung).

- 1 Ovarium
- 2 Mesovarium
- 3 Fundus uteri
- 4 Umschlagfalte des Peritoneums (Excavatio vesicouterina)
- 5 Cervix uteri (Portio supravaginalis)
- 6 Portio vaginalis cervicis
- 7 Vagina
- 8 Crus clitoridis
- 9 Labium minus pudendi
- 10 Fimbriae tubae
- 11 Infundibulum tubae uterinae
- 12 Lig. ovarii proprium
- 13 Mesosalpinx
- 14 Tuba uterina
- 15 Lig. suspensorium ovarii (nach kaudal verlagert)
- 16 Lig. latum uteri
- 17 Lig. teres uteri
- 18 Corpus cavernosum clitoridis
- 19 Glans clitoridis
- 20 Ostium vaginae und Hymen
- 21 Promontorium
- 22 Linea terminalis (Beckeneingangsebene)
- 23 Symphysis pubica

Figure 3

7 Jean-Pierre Barral, Urogenital Manipulation, Eastland-Press, p.229

## SacroRectoGenitoPubisches Bandsystem = Lamina SRGP

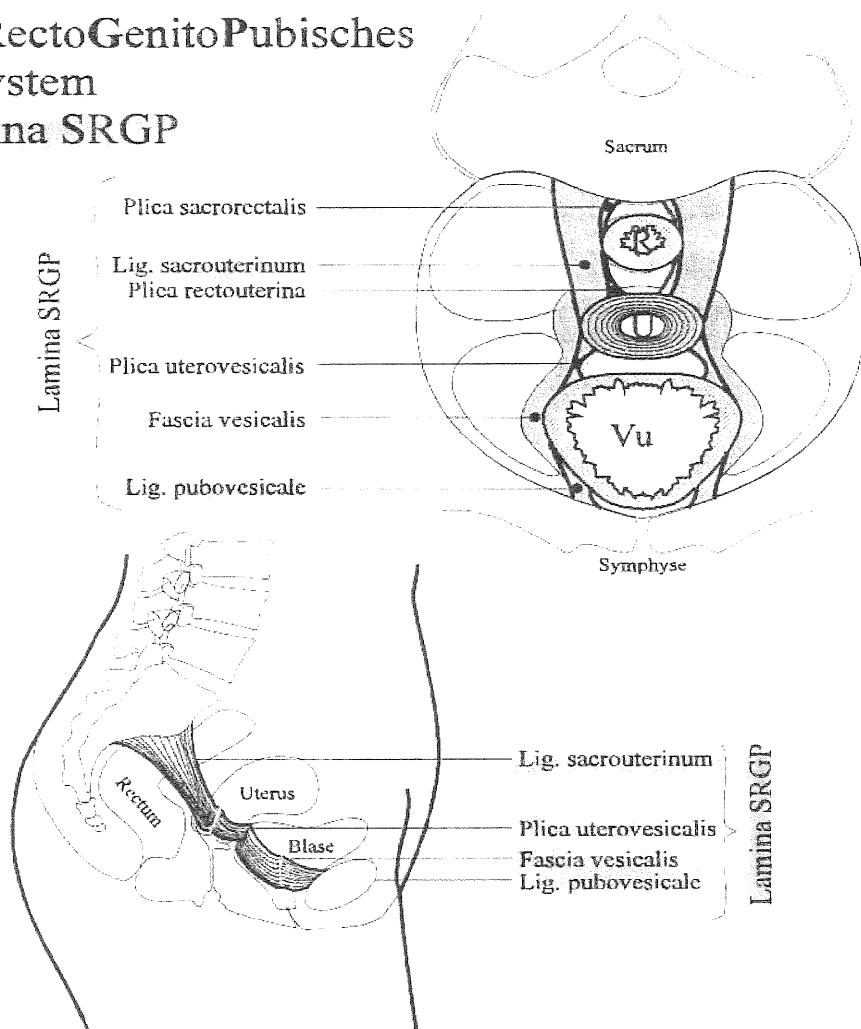


Figure 4

### 5.1.2.3.2. A support system exists for the lower uterus:

The **lamina-sacro-recto-genito-pubialis** ( from the sacrum S2-4 to the pubis) is a lateral stabilisation system comprising ligamenti. These lead one into the other, and run steeply down and forwards.

The beginnings of the lig. sacrouterina on the anterior side of the sacrum project themselves to the height sacral vertebra 2,3,4. In the right corner the lig. sacrouterale goes to the cervix. It builds the axis for the movement of the uterus. The innervation of the cervix is via the plexus hypogastricus. If a ligament is in fibrosis not enough information is sent to the cervix.

The lig. pubovesicalis and vesicouterina are at the front (fibres of the smooth musculator apparatus). These fixations allow us to explain why the correct tension of the lamina-sacro-recto-genito-pubialis is so important for the uterus because it cannot otherwise be so mobile and stabilised at the same time.

Bands of connective tissue are included. The lamina is the strongest ligament in the uterus and provides it with a relative point of fixation. This is seen as a hold for the organs.

The composition allows us to explain why an effective treatment can be achieved by the elongation of the lamina-sacro-recto-genito-pubialis.

Since the musculus piriformis and the lamina-sacro-recto-genito-pubialis have joint attachments any irritation of this disturbs the muscles. According to Barral<sup>8</sup> the ligamenti in the pelvis contain contractile fibres. The rate of contractility is connected to the general muscle tone in the body and the level of hormones (particularly progesteron and in to some extent oestrogen).

Moreover J.P. Barral<sup>9</sup> believes that the anterior sacrum is blocked when the posterior fixations are restricted.

Excessive pressure for longer periods of time – or tractional forces for long periods can lead to a permanent overstretching which can weaken the pelvic floor.

#### **5.1.2.4. Movements**

In a certain sense the uterus is subjected to the movements of the diaphragm. When the diaphragm inhales the uterus goes caudal / ventral (slightly more to the pubis). When exhaling the uterus goes dorsal / cranial. The dome-like form of the fundus serves to lead off the forces from above.

Since we are dealing with an unpaired middle organ the motility is the same as the mobility.

According to the paper of Ligner (1999) in almost 60% of women over the age of forty, the lumbalgia, upper thigh and inner thigh problems, prolapse, pain when having sex, circulation problems such as varicose veins are connected to problems with the lower part of the abdomen.

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8 Barral J.-P. 1993. Urogenitale Manipulation. Eastland-Press(Hg). p.19

9 Barral J.-P. 1993. Urogenitale Manipulation. Eastland-Press(Hg). p.229

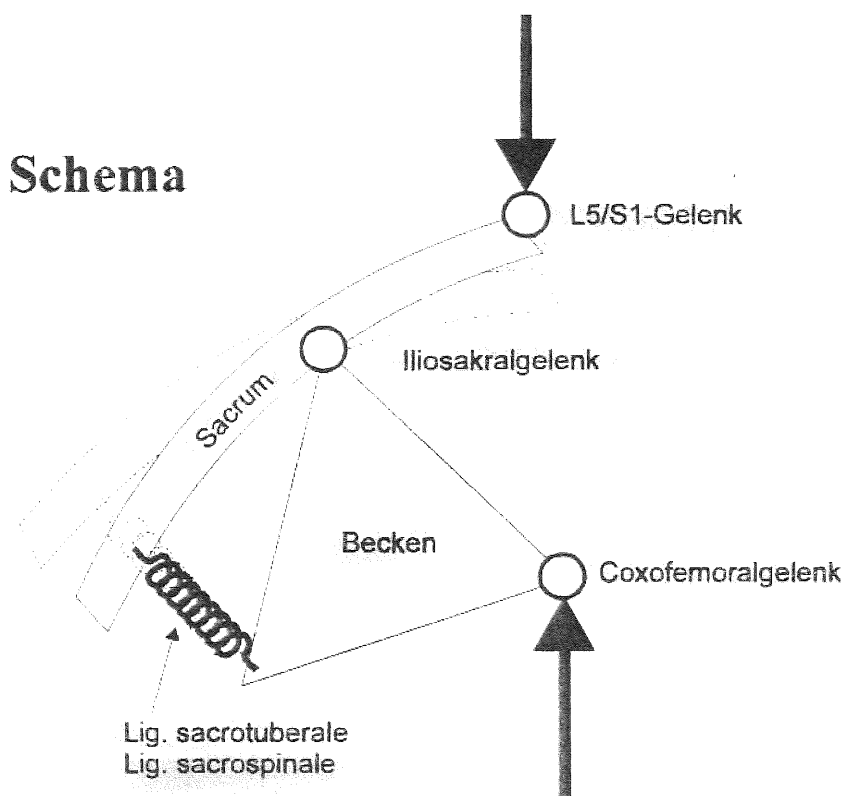
Moreover Ligner states that inferior fixations can lead to mobility dysfunctions in the uterus as a result of a loss of quality in the pelvic floor originating from traumatic, gravid or hormonal causes.

### 5.1.3. Bony pelvis

The bony pelvis, comprising the os coxae and the os sacrum, is limited at the bottom by the muscular apparatus of the pelvic floor. The pelvis represents the basis for the trunk and forms the connection between the vertebral spinal column and the lower extremities.

### 5.1.4. Lumbar-pelvic-movement

In the following chapter I use information of my notes on the speech by P. Klein<sup>10</sup> (1994) on biomechanics.



**Figure 5**

According to Klein<sup>11</sup> (1994) the sacrum has a movement amplitude of one degree.

10 1.Ausbildungsjahr-1.Seminar-1994.Paul Klein.notes.Biomechanik.WSO.1994.

11 1.Ausbildungsjahr-1.Seminar-1994.Paul Klein.notes.Biomechanik.WSO.1994.

The declining gravitational lines follow the lumbar vertebral column, divide at the height of the sacrum and pass through the sacro-iliac joint, a self-blocking system.

The rising forces (reaction) follow the femur, go through the coxofemoral joints and divide to the symphysis and the ilium where they are stored.

As a result of the load when standing, the sacrum is brought into nutation whereby the musculus piriformis, the m. levator ani, muscles of the pelvic floor and the ligamenti sacrospinale- sacrotuberale work against this and keep this in the middle position. In this respect the m. psoas is a ventral balance. It is the guide rail for the movement of the kidney and it can also irritate through its connection with the hip joint and the pelvis.

The ligg. sacroiliaca dorsalia prevent the contranutation of the os sacrum.

According to Kapanschij<sup>12</sup> the lig. illiolumbale and the ligg. sacroiliaca ventralia are additional nutation brakers.

According to Klein<sup>13</sup> (1994), the lig. sacrotuberale and a part of the lig. illiolumbale inferior brake the nutation of the sacrum. As for the ilium these are: the lig. sacroiliacae anterior and the superior part of the lig. illiolumbale. Any osteopathic treatment should always be balanced with the muscular and myotensive elements.

According to Kapanschij<sup>14</sup> "... the sacrum is connected to the ilium by masses of ligaments; as the load increases the sacrum becomes more wedged together between the ilium, the connection becomes fixed on its own."

Moreover Kapanschij<sup>15</sup> writes that the mobility of the sacro-iliac joint is high in a dynamic type of person (with a sacrum standing almost horizontally) whereas in a static type of person the mobility tends to be low particularly since the sacrum is vertical.

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12 Kapanschij, Funktionelle Anatomie der Gelenke, Volume 3, p.54.

13 1.Ausbildungsjahr-1.Seminar-1994.Paul Klein. Skriptum Biomechanik des Hüftgelenks.WSO.1994, p.7.

14 Kapanschij.1998.Funktionelle Anatomie der Gelenke.Bd 3.p. 52.

15 Kapanschij.1998.Funktionelle Anatomie der Gelenke.Bd 3.p. 52.

Stone<sup>16</sup> (1996) has the following opinion: "The pelvis and the muscular apparatus of the pelvic floor can be compared with a hammock. When the pelvis performs a torsion, the hammock hangs (= the muscular apparatus of the pelvic floor) in an unbalanced manner and everything that is supported by the hammock (the pelvic organs) is supported in an unbalanced manner. In this case the organs in the pelvis can contribute towards the torsion since they are secured to the wall of the bony pelvis via the fibrous tissue ligaments."

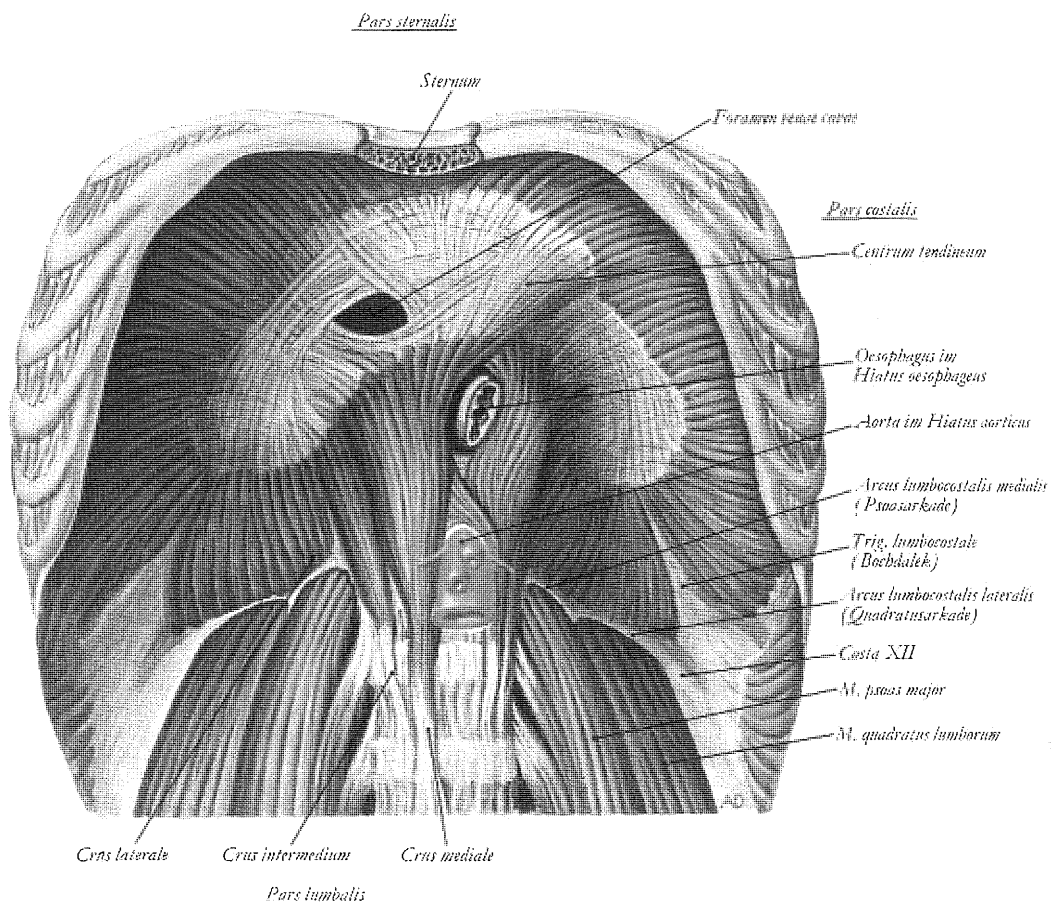
The lesions have an effect on the uterus as a result of the bony and ligamentous connections mentioned above as well as the muscular connections.

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16 Stone C. 1996. Die inneren Organe aus der Sicht der Osteopathie. Wühr/Kötzing(Hg). p. 18.

### 5.1.5. Diaphragm

In the following chapter I use information of the book "Anatomie des Menschen 1" by Waldeyer und Mayer<sup>17</sup> (1992).



**Figure 6**

According to Barral and Mercier<sup>18</sup> (1993) the diaphragmal pump moves 24,000 times a day.

According to Turner<sup>19</sup> (1996) Dr. Still named the diaphragm the "piston in the engine of life".

17 A. Waldeyer und A. Mayet. 1992. Anatomie des Menschen 1. de Gruyter (Hg). Berlin New York. p.252.

18 J.P. Barral u. P. Mercier. 1993. Viszeral Manipulation. eastland press (Hg). p. 7

19 2. Ausbildungsjahr-6. Seminar-1996. Turner. Cranialosteopathie. notes. Diaphragma. WSO. 1996.



It contains three important openings:

1. Hiatus aorticus: height 1. lumbar vertebral column
2. Foramen of the vena cava : height 9. thoracic spine
3. Hiatus oesophageus: height 10<sup>th</sup> thoracic spine

The m. psoas and the m. quadratus lumborum run on the pars lumbalis, on the crus laterale. The lig. arcuatum mediale = arcus lumbocostalis medialis runs from the body to the processus costalis of the first lumbar vertebral column. The lig. arcuatum laterale = arcus lumbocostalis lateralis stretches between the processus costalis of the first lumbar vertebral column and the tip of the 12th rib.

As soon as the m. psoas reveals a dysfunction this has an effect on the lumbar vertebral column and leads in turn to a dysfunction of the sacro-iliac joint.

Moreover dysfunctions in the m. psoas disturb the mobility of the diaphragm and thus disturb the lymphatic and venous backward flow.

Tension in the m. psoas can also lead to a spasm or a limitation of the mobility of the colon ascendens or colon descendens.<sup>20</sup>

According to Klein<sup>21</sup> (1996) the m. psoas is influenced by the intestines. These are located exactly behind the colon ascendens. A zone where toxins can pass into the m. psoas which leads to the hypertonicity of the psoas and problems in the 12<sup>th</sup> thoracic vertebra.

The synchronous movement of the diaphragm and the passive pelvic diaphragm is necessary for the organs of the pelvis. If the diaphragm sinks, the perineum puts the brakes on. The perineum is filled with organs which form a kind of dome. As a result the pressure does not go directly to the perineal aponeurosis but rather divides up in a harmonious fashion in the minor pelvis.

A flat diaphragm reduces the pressure between the thoracic (negative pressure) and abdominal (positive pressure) antrum. This in turn diminishes the lymphatic flow which produces congestion in the tissues.

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20 Caroline Stone, 'The Inner Organs from the Point of View of Osteopathy', p.128

21 Paul Klein, Script „Biomechanics Thorax“, p.31

According to Kuchera<sup>22</sup> (1994) the cyclic changes in pressure as a result of the movement of the diaphragm work like a pump for the lymphatic system. They support a good lymphatic and venous backward flow.

In addition Kuchera is of the opinion that a well-arched diaphragm permits larger differences in pressure between the thorax and the abdomen during contraction and relaxation<sup>23</sup>.

According to Barral and Mercier<sup>24</sup> (1993) variations in the pressure can easily lead to a deterioration of the structures mobilised by the diaphragm.

Through the diaphragmatic therapy the motility of the liver also changes and this is important for the processing of oestrogen. If the liver is in congestion and therefore heavier it can descent and the adduction of the diaphragm is no longer alright. The weight of the liver can result in a longer distance between the liver and the diaphragm.

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22 Kuchera M.L.u. Kuchera W. A.Osteopathic Considerations in Systemic Dysfunction. p.33, 206.1994

23 Kuchera M.L.u. Kuchera W.1994.A.Osteopathic Considerations in Systemic Dysfunction Greyden Press(Hg).p. 43.1994

24 Barral J.P. u. Mercier P.1993.Viszeral Manipulation.eastland press (Pub).p. 7

### 5.1.6. Pelvic diaphragm-perineum

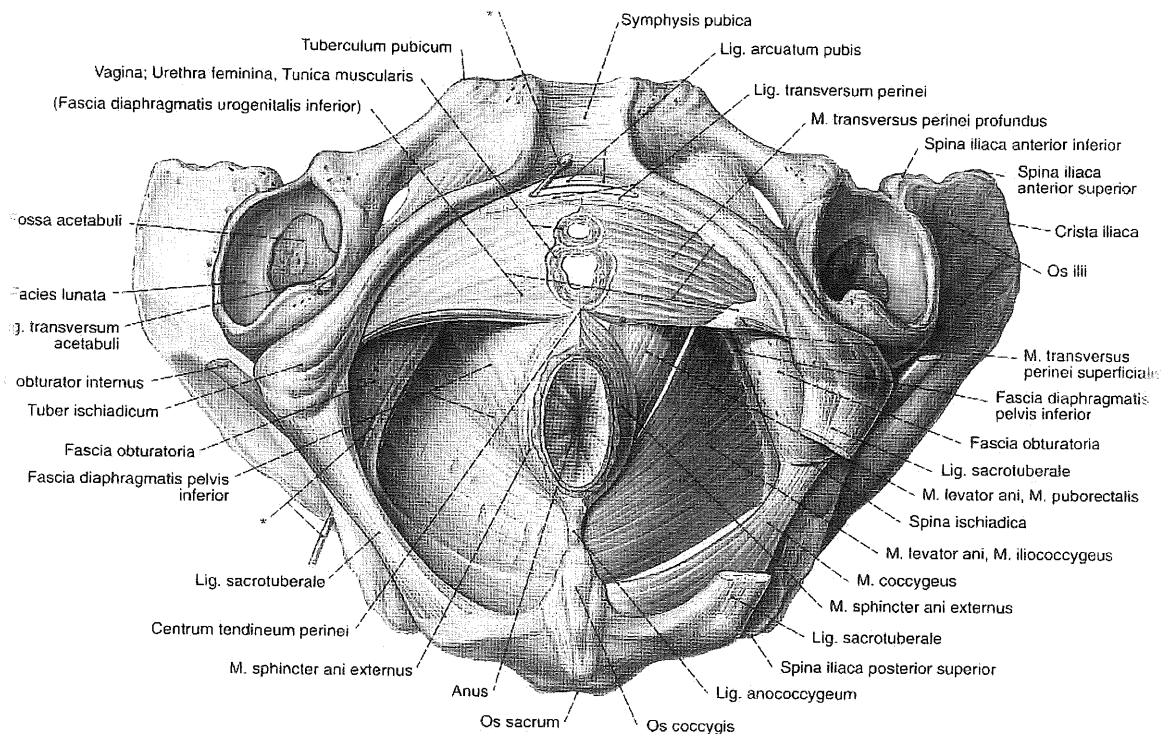
In this chapter I use information from the script “Viszerale Osteopathie, Beckendiaphragma” by Ligner D.O.<sup>25</sup> (1999).

This is made up of the ligamentous frame which enables mobility and stability when walking and the muscular framework which allows for impermeability and permeability.

The intra-abdominal pressure is absorbed, the pelvic organs are protected and the forces are transmitted to gravity.

The m. obturatorius, m. piriformis and their aponeuroses form the lateral wall of the pelvic diaphragm.

The pelvic floor is the lower wall.



**Figure 7**

25 5.Ausbildungsjahr-2.Seminar-1999-Ligner B.Viszerale Osteopathie.Beckendiaphragma.script and notes Beckendia\_ phragma.WSO.1999

This comprises three layers:

1. M. levator ani (=the lowest layer) with the m. coccygeus
2. Mm. transversi perinei profundus and superficialis with the m. bulbospongiosus, ischiocavernosus.
3. The m. transversus perinei profundus begins at the back on the fibrous central core of the centrum tendineum.
4. M. sphincter ani (=top-most layer)

The m. obturatorius and the m. piriformis stretch to the side

#### M. piriformis:

The M. piriformis has the same point of insertion as the lig. sacrouterinum.

The plexus hypogastricus goes through the ligamentum latum and the ligamentum sacrouterinum to supply the uterus.

As a result a hypertonic m. piriformis is an indication of a problem in the smaller pelvis.

All of the muscles meet in the centrum tendineum and all the pressure forces from the abdominal range disperse here.

According to W.G. Sutherland<sup>26</sup> the m. levator ani strains considerably and causes complaints when the pelvis is blocked by a ptosis.

According to M. L. and William A. Kuchera<sup>27</sup>, the pelvic diaphragm can only work in a relaxed state passively and synchronously with the abdominal diaphragm .

If the muscles of the abdomen do not function well then according to Paul Klein<sup>28</sup> the pressure diversion of the diaphragm no longer works and this leads to obstipation.

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26 Sutherland W.G.(D.O.).1990.teachings in the science of osteopathy.Rudra Press (Pub), p. 212.

27 Kuchera M.L.u. Kuchera W. A.Osteopathic Considerations in Systemic Dysfunction.Greyden Press(Hg).p.100.1994

28 1.Seminar-1.Ausbildungsjahr-1994.Klein P.Biomechanik des Hüftgelenks.Mitschrift Biomechanik.wso.1994.p. 20

### Innervation:

The nerves run with the vessel from the posterior position.

- Plexus sacralis: (L4-S3) runs between the m. piriformis and the m. coccygeus. As a result tension in the m. piriformis can influence the plexus and disturb the physiology of the uterus.
- N. obturatorius: this is accompanied by the a. and v. obturatoria.
- Truncus sympathicus

### 5.1.7. Sympathetic nervous system-parasympathetic nervous system

In this chapter I use information from the script "Viszerale Osteopathie, Beckendiaphragma" by Bernard Ligner D.O.<sup>29</sup> (1999)

The sympathetic nervous system leads to the constriction of the lymph vessels, the parasympathetic nervous system leads to the reduction of the lymphatic flow and to the congestion of the tissues. Kuchera<sup>30</sup> writes that Dr. Korr once determined that parasympathetic and sympathetic nerve activity are a common factor in every illness process.

The parasympathetic innervation is provided by the n. vagus from the upper gastrointestinal tract through to the half rising colon and by the n. splanchnicus (S2, 3, 4) from the left half colon up to the pelvis. Moreover the parasympathetic nervous system supplies (of S2 – S4) the cervix and the vagina. To obtain a better nervous supply in the sacrum I am particularly attentive to the mobility of this.

In view of the fact that the sympathetic nervous system supplies the ovaries, the uterus (from TH11 – TH12), the vagina and the ovaries (TH10 – 11) I always pay attention to the mobility of the diaphragm in my patients and the right tension of the m. psoas.

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29 5.Ausbildungsjahr-2.Seminar-1999-Ligner B.Viszerale Osteopathie.Beckendiaphragma.script and notes Beckendia  
phragma.WSO.1999

30 Kuchera M.L.u. Kuchera W. A.Osteopathic Considerations in Systemic Dysfunction Greyden Press(Pub), p. 84.1994

## 5.2. Physiology

In this chapter I use Information from the book "Anatomie des Menschen 1" by A. Waldeyer und A. Mayet<sup>31</sup> (1992).

The cycle is controlled by the hormones of the anterior hypophysis.

The changes in the mucous membranes of the uterus are divided into the:

1. Proliferation phase (=oestrogen phase; this has an effect on the blood and then on the mucous membranes of the uterus):

Under the influence of the follicle hormone, the mucous membrane as a whole begins to thicken by around 3 – 4 mm. At a command from the interbrain the hormone is formed by the pituitary gland and it reaches the ovarian tubes via the blood stream. The ovarian tube then produces the oestrogen hormone.

2. Secretion phase:

The increased amount of oestrogen in the blood causes the hypophysis-hypothalamus to produce a luteinising hormone. With ovulation (in most cases between the 14th and 16<sup>th</sup> day of the cycle) the corpus luteum is formed. Its secretory product, progesteron, controls the secretion phase of the uterus mucous membranes and restricts the growth of a new follicle via the hypohysis. The epithelium gets even higher, the mucous membranes thicken by about 6-9 mm. The relaxation and becoming softer of the connective tissue in the myometrium make it possible for the muscular apparatus to contract during menstruation. The prostaglandin rises in the secretory phase and therefore it increases the uterine contractions.

3. Desquamation phase:

If the egg is not impregnated blood is released into the tissues. The epithelium is broken away bit by bit until finally all the surface mucous membranes have been shed. New tissue is formed in the lower layer directly next to the muscles. The wound begins to "heal" as early as the

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<sup>31</sup> Waldeyer u. Mayet. 1993. Anatomie des Menschen 1. 16. Aufl. de Gruyter (Pub), p. 181.

3<sup>rd</sup> day. The four weekly cycle involves a number of complicated connections and dependencies which I will not now explain in greater detail.



## 6. EXAMINATION AND TREATMENT

In the examinations and treatments listed in my dissertation I am in the main referring to lesions which I detected.

- With lesions in the spinal column, ribs, peripheral lesions (as of L5 upwards) patients were treated with structural techniques.
- Organic problems were treated with visceral techniques.

### 6.1. Examination

#### 6.1.1. Examination of bone defective positions

##### 6.1.1.1. First test standing and sitting

In this way it is possible to differentiate for an ilium – sacrum lesion or a sacrum – ilium lesion. With a sacrum – ilium lesion a structural, fascia or muscular problem is to be expected.

##### 6.1.1.2. Pubis test

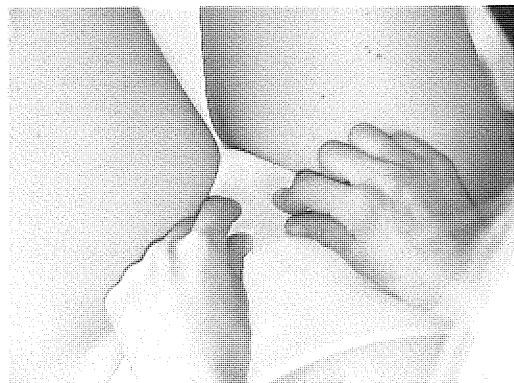
###### 6.1.1.2.1. Static Test:

###### Dorsal position:

Therapist stands to the side

###### Position of hands:

Test the position with the ball of the thumb down from the cranium: cranial or caudal



Picture 1, H. Karl, 1999

stance test the position and at the same the contact with the index finger from the ventral position whether the os pubis is in an anterior or posterior position.

#### 6.1.1.2.2. Movement test

##### Dorsal position:

The therapist stands to the side

##### Position of hands:

Patient flexes knee in alternating fashion (as when walking)

With a lesion a fixation is noticeable on one side.

#### 6.1.1.3. Ilium Test

Testing the os ilium lying on the back and on the stomach:

The following positions: superior, inferior, outflair, inflair were tested on both the spina iliaca anterior superior and the spina iliaca posterior superior.

##### Dorsal position, stomach position:

The therapist stands to the side

##### Position of the hands:

Both the spina iliaca anterior superior and the spina iliaca posterior superior are palpated to determine whether they are standing caudal or cranial.

A positive forerun when standing agrees with the side of the dysfunction.

#### 6.1.1.4. Sacrum test

##### Lying on stomach:

The therapist stands to the side

##### Position of the hands:

The thumb palpates

1. The inferior lateral angle of the os sacrum is tested: this can be positioned anterior – superior or posterior – inferior.
2. The sacrale sulcus is palpated: this can be low on one or on both sides.

### 6.1.1.5. Backward Bending Test

#### Lying on stomach

#### Position of the hands:

Grasp the inferior angles with the thumbs, let the patient lower herself onto her forearms.

#### Evaluation:

- a negative BBT Test: a deterioration of the inferior angle is to be palpated
- a positive BBT Test : the anguli come more into a neutral position



Picture 2, H. Karl, 1999

### 6.1.1.6. Rotation test of L5

#### Lying on stomach

#### Position of the hands:

Palpate both sulci with the thumbs

L5 is tested by pressing on the processus transversi with both thumbs.

#### Evaluation:

- with a forward torsion the body of a vertebra rotates against the direction of the sacrum
- with a backward torsion the body of a vertebra rotates in the direction of the sacrum

### 6.1.1.7. Spring Test

Lying on stomach resting on forearms:

Position of hands:

Little finger-edge of hand is placed on L5/S1, the second hand focuses above the wrist

Evaluation:

- Negative spring test: there is a spring
- Positive spring test: there isn't any spring, a hard „point of impact“



Picture 3, H. Karl, 1999

### 6.1.1.8. M. piriformis

The forerun (VL = Vorlauf) when sitting agrees with the tensed m. piriformis.

Dorsal position:

The therapist stands at the end of the legs and compares the inner rotation of both legs.

The m. piriformis is tense on the side where there is less inner rotation.

#### Summary of evaluation of sacrum test

- Forward Torsion:
  - 1) Forerun when seated on the same side as the rotation of L5
  - 2) L5 rotates against the sacrum
  - 3) Negative spring test
  - 4) Negative BBT test
- Backward Torsion:
  - 1) Forerun when seated on the same side as the rotation of L5
  - 2) L5 rotates with the sacrum
  - 3) Positive spring test
  - 4) Positive BBT Test

### 6.1.1.9. Coccygis

#### Sitting:

The therapist stands behind the patient.

A middle finger goes on the caudal end of the os coccygis, the index finger and the ring finger are to the side of this.

- 1) When inhaling the pressure on the middle finger should increase and decrease when the patient is exhaling.
- 2) The second hand brings the body of the patient into a lateral flexion by putting pressure on the shoulder. This is how the lateral flexion of the os coccygis is tested.



Picture 4, H. Karl, 1999

### 6.1.2. Further examinations of muscles, ligamenti and the uterus

#### 6.1.2.1. Examination of m. iliopsoas

##### Dorsal position:

The therapist stands to the side

##### Position of the hands:

The therapist flexes the closest hip of the patient in as far as this is possible and observes whether the upper thigh of the opposite side rises. This is how I test the extension of the stretched leg.

In most cases the m. piriformis is tense on the opposite side of the m. iliopsoas.

#### 6.1.2.2. Examination to evaluate the connection between the sacrum and the uterus (test for the lamina sacro-recto genito-pubialis)

##### Dorsal position:

The therapist stands to the side.



Picture 5, H. Karl, 1999

### Position of the hands:

One hand lies on the sacrum, the second hand lies on the fundus uteri.

### Testing:

Small movements are performed with the upper hand.

Small movements on the uterus should not normally have an effect on the sacrum.

If there is any tension the movement of the uterus pulls influences the sacrum as well.

## **6.1.2.3. Examination of uterus**

### Dorsal position:

The therapist stands to the side

### Position of hands:

The balls of the hands lie flat above the symphysis.

The finger-tips are pointing in the cranial direction

### Evaluation:

- Inspiration: the uterus points in the caudal, ventral direction
- Expiration: the uterus points in the cranial direction

## **6.1.2.4. Testing of the lig. latum**

Dorsal position: the legs are bent, pillow under the buttocks.

The therapist stands at patient's head

### Position of the hands:

The finger tips lie on the edge of the pubis

### Mobilisation:

- 1) With the ulnar edges of the hand one palpates laterally on the edge of the m. rectus abdominis inwards, until one feels the outer edge of the uterus.



Picture 6, H. Karl, 1999

- 2) One pushes the organ to the right and left to test the ligamenti of the respective other side.

#### **6.1.2.5. Examination of pelvic diaphragm - testing of ligamentum uterosacrale**

Dorsal position:

The therapist stands to the side

Position of hands:

With his thumbs the therapist presses below the lig. sacrotuberale to the side

The tension on both sides is compared.



Picture 7, H. Karl, 1999

#### **6.1.2.6. Examination of diaphragm tension**

Sitting:

The therapist stands behind the patient

Position of hands:

From behind the therapist grasps below the costal arch using the little finger side of the hands and compares the tension



Picture 8, H. Karl, 1999

#### **6.1.2.7. Examination of cranial rythmn**

Dorsal position:

The therapist sits at the head

Testing:

The mobility of the synchondrosis spenobasilaris is observed.

## 6.2. Main treatment

I decided to use the treatment techniques of Mitchell on the os pubis, os illium and os sacrum since one arrives at the regulation of the information concerning a joint via the muscle energy techniques.

As has been shown in the anatomy section, the pelvis has a large ligamentary and muscular frame.

The ligamenti of the lamina sacro-recto-genita-pubialis contain lots of contractile fibres which can relax during the Mitchel treatment by regulating the muscle balance.

### 6.2.1.1. Treatment of a cranial os pubis

#### Dorsal position:

Extension of hip on the affected side over the edge of the table

#### Position of hands:

The spina illiaca anterior superior of the side lying opposite is fixed with the cranial

hand.

The caudal hand is on the upper thigh.

#### Mobilisation:

When inhaling the patient presses the upper thigh against the resistance offered by the therapist towards a hip flexion for approximately 7 seconds.

When exhaling the therapist lets the patient's leg fall onto the table and pulls on the patient's leg respectively slows down the act of falling down.



Picture 9, H. Karl, 1999



### 6.2.1.2. Treatment of a caudal os pubis

#### Dorsal position:

the leg in question nearest to the therapist is flexed. The therapist stands in front of the patient

#### Position of the hands:

The medial hand makes medial contact with the tuber ischiadicum.



Picture 10, H. Karl, 1999

The medial shoulder enters into contact with the flexed knee of the patient.

The thumb of the lateral hand palpates the spina iliaca anterior superior.

#### Mobilisation:

The medial hand forms a harness (until the tension can be felt on the spina iliaca anterior superior). When breathing in the patient presses her leg against the shoulder of the therapist for approximately 7 seconds. After that the therapist puts pressure on the tuber with her fist looking for a motoric barrier in this way.

### 6.2.1.3. Treatment of anterior ilium

#### Dorsal position:

The side to be treated is flexed

#### Position of hands:

The fingers of the medial hand are below the tuber, the patient's knee is supported on the shoulder of the therapist. The



Picture 11, H. Karl, 1999

second hand is on the spina iliaca anterior superior as a check.

#### Mobilisation:

The therapist seeks the motoric barrier by tipping the ilium posterior and when breathing in the patient presses her knee against the therapist's shoulder for

approximately 7 seconds. Then the tension is removed and a new motoric barrier is sought.

#### **6.2.1.4. Treatment of posterior ilium**

##### Dorsal position:

The leg to be treated hangs across the table.

The contralateral leg was flexed with patients with problems with the lumbar vertebral column.

##### Position of hands:

The therapist palpates the spina iliaca anterior superior puts resistance on the lower thigh of the patient with her leg towards an extension of the knee.



Picture 12, H. Karl, 1999

##### Mobilisation:

The patient presses her upper thigh against the resistance of the therapist in the sense of a knee extension for approximately 7 seconds.

#### **6.2.1.5. Treatment of a Forward Torsion**

##### Side position:

Place legs one on top of the other on the axis in question.

The shoulders rotate in the opposite direction so that the costal frame lies in the abdominal position.



Picture 13, H. Karl, 1999

To correct the rotation of L5 the arm of the non-affected side hangs down from the table. Both patient's knees lie on the upper thighs of the therapist.

##### Position of the hands:

With the hand nearest to the patient the therapist reaches into the upper sulcus and flexes in the hip of the patient until she feels a movement in the sulcus.

Both patient's knees lie on the upper thighs of the therapist.

The feet of the patient are pointed in the direction of the ground until one feels the sulcus becoming more shallow.

Then the patient presses her feet towards the ceiling – relaxes – then the movement continues downwards.

Repeat 3 – 5 x

### 6.2.1.6. Treatment of a Backward Torsion

#### Side position:

Patient lies on the affected side

The lower leg is extended until one feels a movement in the sulcus. The upper extremity is flexed until one feels a movement in the sulcus.

An isometric stretch takes place by lifting the upper leg in the direction of the ceiling for approximately 7 seconds.

Repeat 3 – 5 x times



Picture 14, H. Karl, 1999

### 6.2.1.7. M. piriformis

#### Dorsal position:

The therapist stands on the side to be treated of the m. piriformis.

Flex leg in hip by 90°

#### Position of hands:

The cranial therapist armpit lies on the patient's knee. Weight is put onto this along the femur axis (to increase the decoaptation).

The caudal therapist's hand passes from the medial to the dorsal side of the upper thigh whereby the thumb lies in the medial position.

In this way a slight decoaptation can be performed with this laterally.



Picture 15, H. Karl, 1999

### Mobilisation:

Patient presses lower thigh against the caudal therapist's elbow (outer rotation in the hip)

In the relaxation phase the therapist seeks a new motoric barrier by going a lot into inner rotations and some adduction.

### **6.2.1.8. Elongation of upper part of the m. psoas**

With a restriction of the diaphragm the anatomic connection to the M. psoas is very important as has already been mentioned.

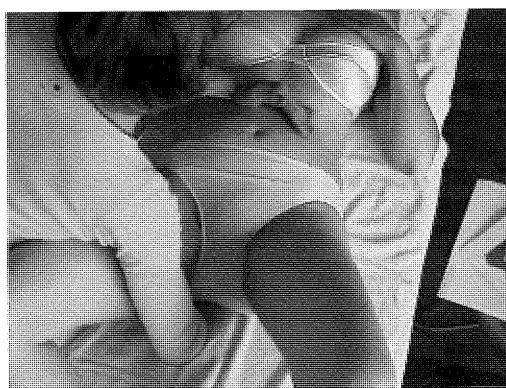
#### Dorsal position:

The legs are up, the soles of the feet are pointing towards each other.

The therapist is standing to the side

#### Position of the hands:

The cranial hand is at the height of the navel, the caudal hand is below the sacrum.



Picture 16, H. Karl, 1999

#### Mobilisation:

When breathing out the patient should slowly stretch out her legs. The heels should remain together for as long as possible.

The hand of the therapist takes a pull of the sacrum in the caudal direction in contranutation and the hand on the abdomen puts pressure in the posterior direction so that the patient does not get too much of a hollow back.

When breathing out the diaphragm tries to move into a cranial direction. The therapist keeps it in a caudal, posterior position by applying pressure.

This mobilisation is carried out 3 x .

### 6.2.1.9. Treatment, relaxation technique of lamina sacro-recto-genito-pubialis

#### Stomach position:

a pillow under the patient's feet, the therapist is to the side

#### Position of hands:

The cranial hand makes a fist and places this under the abdomen of the patient. The hand is thereby lying in supination above the symphysis.

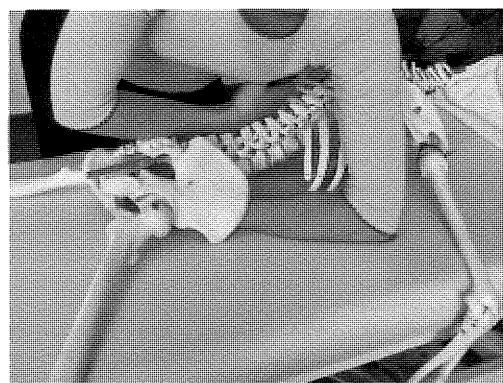


Picture 17, H. Karl, 1999

The caudal hand is also in supination, the lower arm lies on the sacro-iliac joint, the shoulder of the therapist lies above this.

#### Mobilisation:

To attain relaxation, the caudal hand makes a compression downwards. The cranial hand below the abdomen makes a slight swivelling movement upwards. This causes both arms to move towards each other.



Picture 18, H. Karl, 1999

For the other side only the caudal hand moves to the other sacro-iliac joint and the hand below the abdomen presses in the other direction upwards.

M. L. Kuchera and W.A. Kuchera<sup>32</sup> report that the relaxation of the pelvic diaphragm help to alleviate the blockage and the pain in the pelvis.

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32 Kuchera M.L.und Kuchera W.A.Osteopathic Considerations in Systemic Dysfunction.p. 105

### 6.2.1.10. Relaxation of diaphragm:

Since with dysfunctions of the diaphragm no movement is exercised on the abdominal viscera through to the symphysis, it was necessary to stretch the diaphragm in lots of my patients.

#### Dorsal position:

The therapist stands at the patient's head. The patient embraces the body of the therapist with his arms.

#### Position of hands:

The therapist grips the costal edges of the



Picture 19, H. Karl, 1999

costal arch to the left and right.

#### Mobilisation:

When inhaling the thorax widens and goes along with the movement. When exhaling this wide position is maintained .

It is, however, also interesting to mention that the restricted mobility of the diaphragm often also had an influence on the movement of the liver. The liver is of course suspended on the diaphragm.

According to Barral and Mercier<sup>33</sup> (1999). it is rare that the function of the liver does not have to be put back into motion again. Particularly as a result of its role in the metabolism of the hormones (including oestrogen). Moreover they report that nervous depressions and the liver are connected which is also taken into consideration in Oriental Medicine.

According to Oriental medical tradition this deficit in the liver comes from a lack of energy in the brain, in particular the right frontal side. It would certainly be of interest for another dissertation to talk about the role of the liver in primary dysmenorrhoea .

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33 J.P: Barral und P. Mercier.Viszeral Manipulation.S90f

### 6.2.1.11. Treatment of the uterus and elongation of the ligamenta lata

#### Dorsal position

The legs are up. The therapist is to the side

#### Position of hands:

The fingers and the thumbs of the cranial hand surround the uterus. The caudal arm is below the legs of the patient.



Picture 20, H. Karl, 1999

#### Mobilisation:

Whilst the uterus is moved to the left and right, the legs are circumducted respectively in the opposite direction.

### 6.2.1.12. CVIV

#### Dorsal position:

The therapist sits at the patient's head

#### Position of hands:

The lower arms should lie on the bed to as not to press the balls of the thumbs apart with the weight of the head. Both balls of the thumbs enter into contact below the tentorium, medial to the sutura occipitomastoidea, below the linea nuchae. The thumbs form a V so to speak, whilst the palms of the hands lie one on the other. The fingers are located approximately at the height 2/3 cervical vertebra



Picture 21, H. Karl, 1999

#### Mobilisation:

One waits and observes the diaphragm, the eye brows and the fluctuation of the back cranial fossa. It is as if breathing would stop, and a fluttering sets in. Together with the change in the liquor one attains a change in the water balance.



One observes the longitudinal fluctuation, primary breathing regulates itself again.

## 7. METHOD OF TREATMENT

### 7.1. Measuring methods

Twenty female patients took part in my study.

Before the first therapy resp. before the patients filled in the questionnaire the patients' hormonal status was assessed to exclude dysfunctions. The patients were put into these two groups at random:

Two groups of patients were selected for statistical purposes:

- a group who did not undergo treatment apart from their blood pressure being measured (control group)
- one group which underwent osteopathic treatment

The following two measuring methods were applied to the treated and the non-treated patients:

#### 7.1.1. 10 point pain scale:

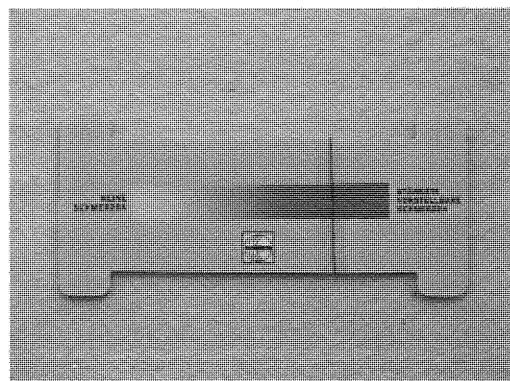
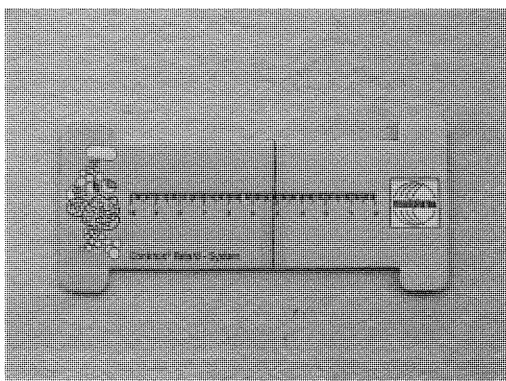
The patients indicated their level of pain on a 10 point pain scale prior to the first treatment and after the last treatment:

The pain intensity was described as follows:

0 = no pain

1= bearable pain

10 = unbearable pain, „I feel like jumping out of the window, the pain is so bad“



Picture 22, H. Karl, 1999



### 7.1.2. Questionnaire

As I couldn't find a questionnaire on primary dysmenorrhoea I developed one myself.

In my opinion it plays an important role how long the patient experiences pain (days for the women considered) and therefore I asked the patients for exact time data.

I wanted to ask the last few questions personally because they touch very intimate issues and a descriptive form seemed important to me as I could ask for more details when talking to the patients. For the analysis I asked the patients to answer with "yes" or "no".

This was given to the patients prior to the first and last treatment to be filled in.

- 1) During menstruation do you have suffer from painful cramps which come in waves and tenseness in the lower abdominal region?

yes no

- 2) Do you have painful cramps which come in waves in the lumbar vertebral column during menstruation?

yes non

- 3) When does the menstrual pain being respectively how long does it last?

- 1st day
- 2nd day
- 3rd day
- 4th day
- 5th day
- 6<sup>th</sup> day
- 7th day

- 4) Do you have the following side effects during menstruation:

- Head-ache?      yes      no  
if yes, where?.....
- Tiredness?      yes      no
- Dizziness?      yes      no
- Constipation?      yes      no

All the test persons are asked in person (i.e. not through a questionnaire) whether they are under emotional stress, their partnership is intact, they have been sexually molested.

The questionnaire is handed to patients to be filled in prior to the first and after the last treatment.

## **7.2. Critical Reflection of the method**

The statistic analysis is significant to only a limited extent as the questionnaire only asks for the main symptoms of primary dysmenorrhoea and as there were no detailed questions on the characteristics of the pain.

During the time of therapy some patients dropped out (pregnancy). Finally only a few patients were treated and observed throughout the planned space of time.

As I am no doctor I had to rely on the controls of the hormonal status by the patients' gynaecologists. Now, after I have finished, I doubt if it wouldn't have been better to have one gynaecologist to control the patients' hormonal status as there are different opinions on how to analyse respectively interpret the hormonal status.

It would have also been good to include the hormonal status after the therapy in the statistics, because the hormones play an important role with primary dysmenorrhoea.

The patients' diet (like e.g. warm food) is certainly also an important factor as is mentioned in Chinese literature again and again. Now I see that it would have been important to also include these data into the questionnaire. Besides the colon is in contact with the genital tract.

Cecum and appendix are connected with the right ovary. Moreover the rectum, over the excavation rectouterina resp. over the lamina SRGP, and the colon sigmoideum are in contact with the uterus. It is also proved that intestinal problems aggravate dysmenorrhoea and the intestine is

influenced by hormones. It is also influenced by activity of the uterus and the uterus is influenced by intestinal activity as well.

Moreover the question arises if it had been better to treat the patients in the first phase after the menstruation as a higher level of oestrogen leads to a more intensive production of uterus contracting prostaglandines.

For the same reason I should have turned more attention to the liver – it metabolises hormones. Especially after the ovulation the liver works hard because of the high level of oestrogen. The liver presumably works to a lesser extent with primary dysmenorrhoea or the liver is heavier because of congestion and its weight results in a longer distance between the liver and the diaphragm.

## 8. STATISTICS AND EVALUATION

The data give information on the patients' perceptions and experiences. The effectiveness of the therapy can be seen in these perceptions. If you compare the two groups, it can be seen that in the test group situation improved significantly.

As there are not many connections because the group was not very big it is only possible to describe the frequency. The patients who were not treated reported significantly more troubles in our first meeting than the ones who were treated. Maybe they also wanted to get therapy and hoped to get one by reporting more severe troubles.

### 8.1. Untreated patients

The blood pressure was controlled as a rule 6 times before the start of menstruation.

The blood circulation is dependent on the performance of the heart and the vascular resistance (tonus and elasticity of the vessel walls).

The systolic pressure shows the arterial pressure during the Kammer-systole/chamber systole. The diastolic pressure is the arterial pressure of with ventricle diastole. In the first place this expresses the elasticity of the arterial walls.

According to Faller<sup>34</sup> (1998) only an elongated elastic body can store energy and release this in turn. As a result of the elasticity of the aortic wall the rhythmic pulsating flow of blood is transformed into an even flow of blood.

The difference between the systolic and diastolic blood pressure indicates the elasticity of the blood vessels.

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34 Faller F. 1988. Der Körper des Menschen. Thieme (Pub). p. 183.

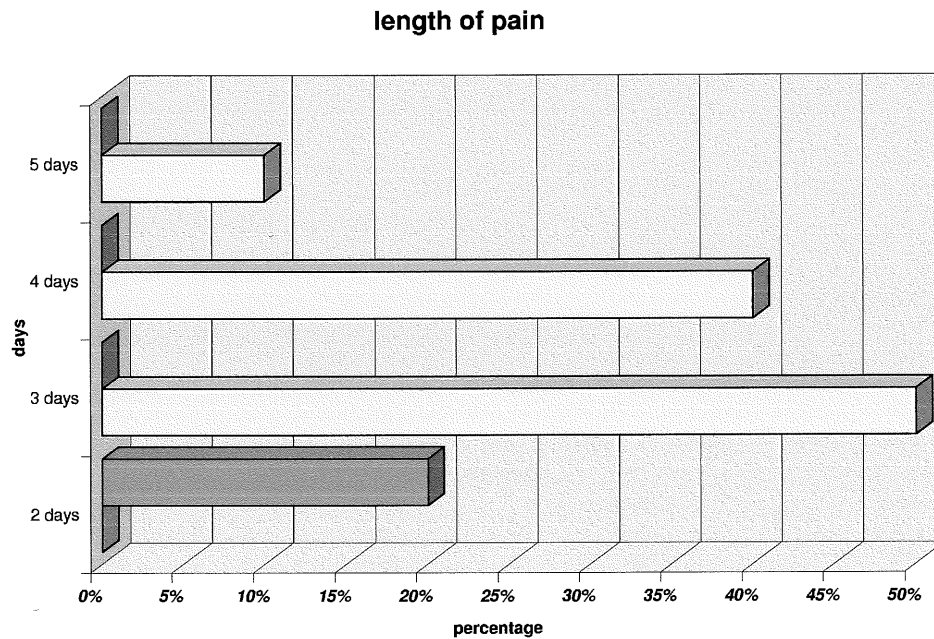
Evaluation of blood pressure:

- 160/100 mmHG
- 165/100 mmHG
- 161/95 mmHG
- 159/90 mmHG
- 157/91 mmHG
- 168/96 mmHG
- 168/96 mmHG
- 169/97 mmHG
- 171/101 mmHG
- 161/95 mmHG

The blood pressure values reported are relatively high. From this we can conclude that patients with primary dysmenorrhoea tend to have higher blood pressure.

## 8.2. Length of Pain

### 8.2.1. Patients who underwent osteopathic treatment

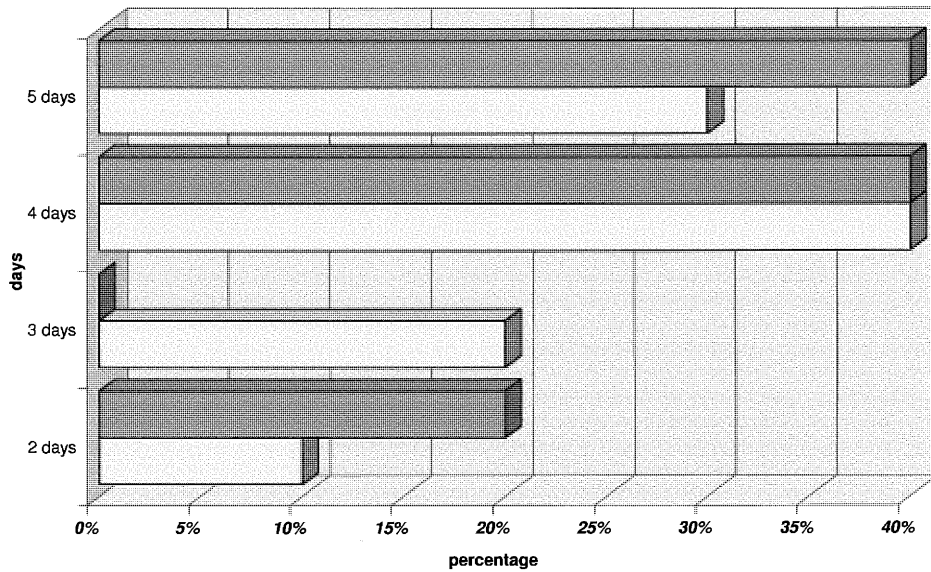


	2 days	3 days	4 days	5 days
■ after	20%	0%	0%	0%
□ before	0%	50%	40%	10%

Following osteopathic treatment only 20 % of the patients indicated that they had had pain and this occurred in the first two days. It can be seen that the therapy reduces the length of the pain which was only two days in the end .

## Control Group

length of pain



	2 days	3 days	4 days	5 days
■ after	20%	0%	40%	40%
□ before	10%	20%	40%	30%

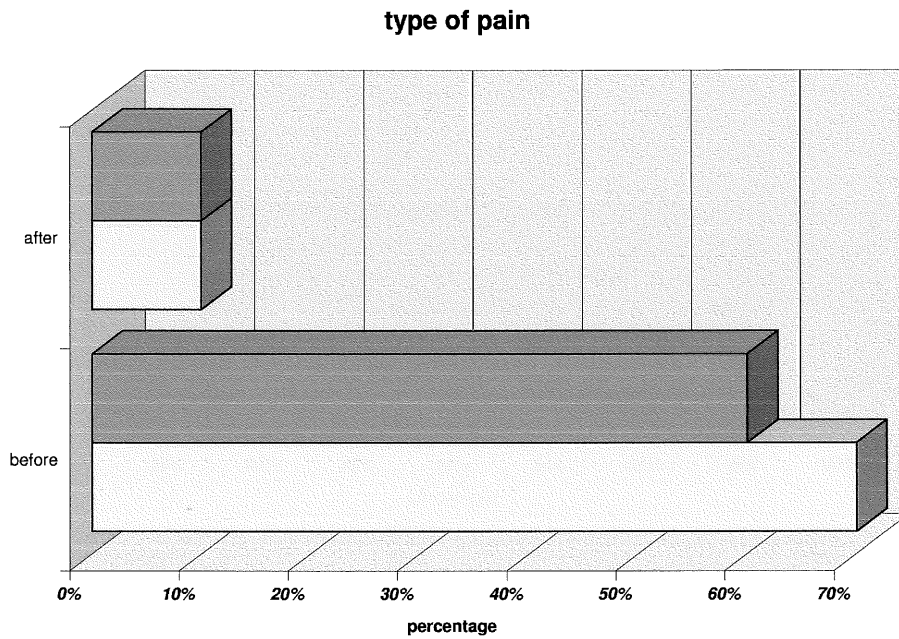
The length of pain does not differ a lot in the control group.

After six months 20% of the patients reported two days, 0% three days, 40% four days and 40% five days of pain.

It can be seen that for the patients without osteopathic treatment the length of pain in some cases even increased at the mentioned days by 10%.

### 8.3. Type of Pain

#### 8.3.1. Osteopathic treated patients



	before	after
■ cramps in the lumbar vertebral column	60%	10%
□ cramps in the lower abdominal region	70%	10%

The cramps in the lumbar vertebral column were reduced from 70% to 10%.

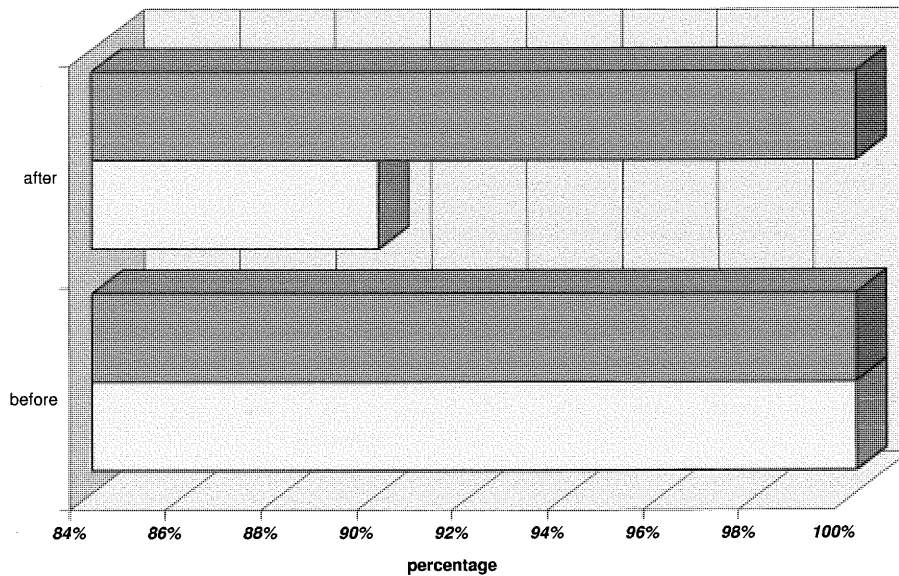
The cramps in the lower abdominal region were reduced from 60% to 10%.

This chart shows that osteopathic treatment can influence the spastic hypercontractibility in the lumbar vertebral column and the lower abdominal region.



### 8.3.2. Control Group

type of pain



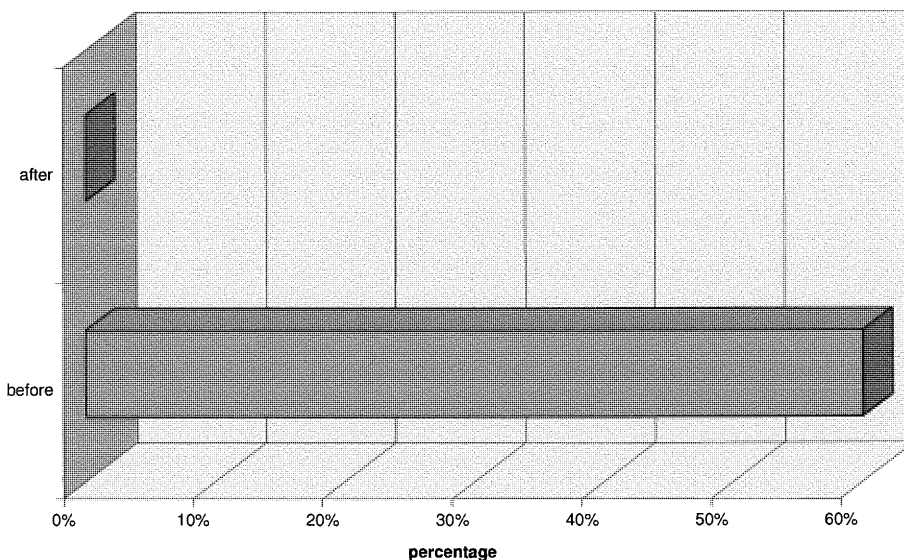
	before	after
■ cramps in the lumbar vertebral column	100%	100%
□ cramps in the lower abdominal region	100%	90%

The cramps in the lumbar vertebral column and in the lower abdominal region increased significantly. Only in the lumbar vertebral column the pain was experienced as decreased by 10%.

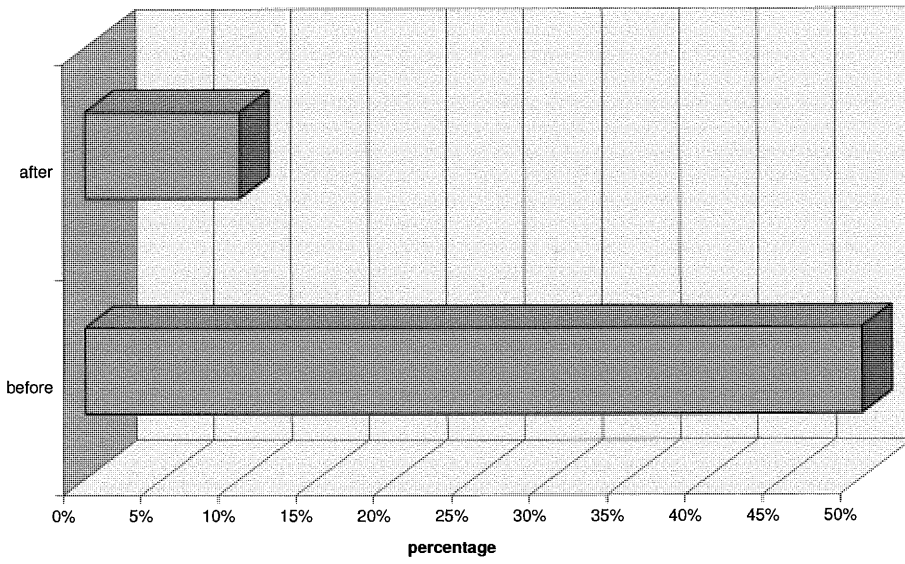
### 8.4. Side Effects

#### 8.4.1. Patients who underwent osteopathic treatment

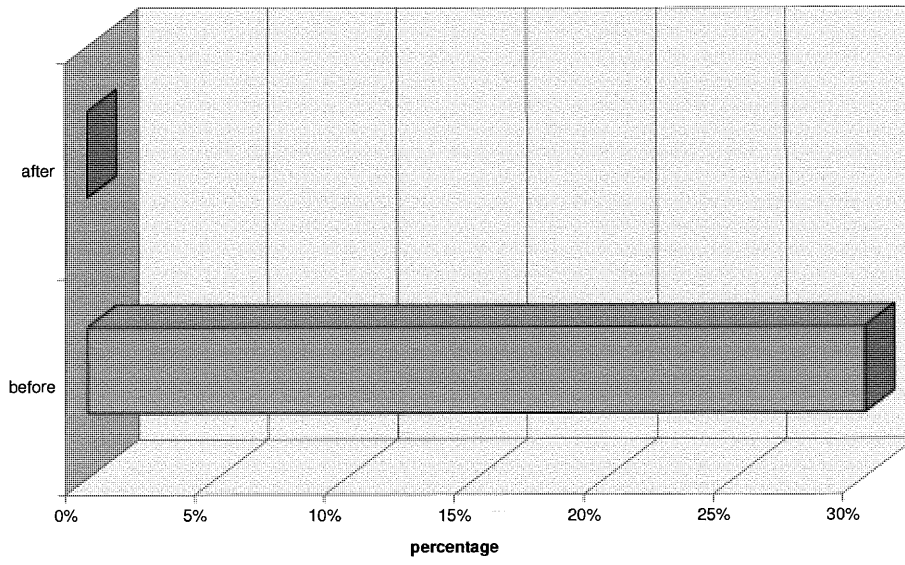
headache



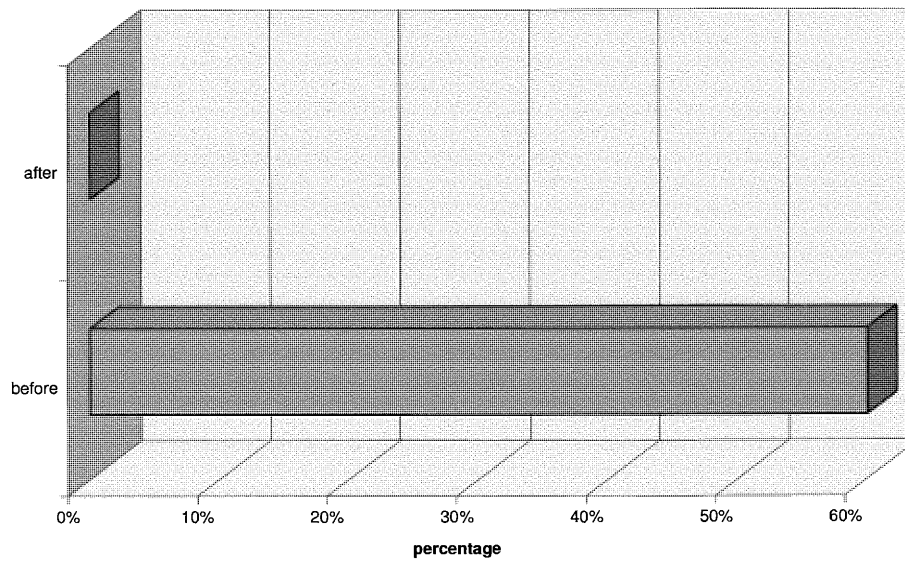
tiredness



dizziness



constipation



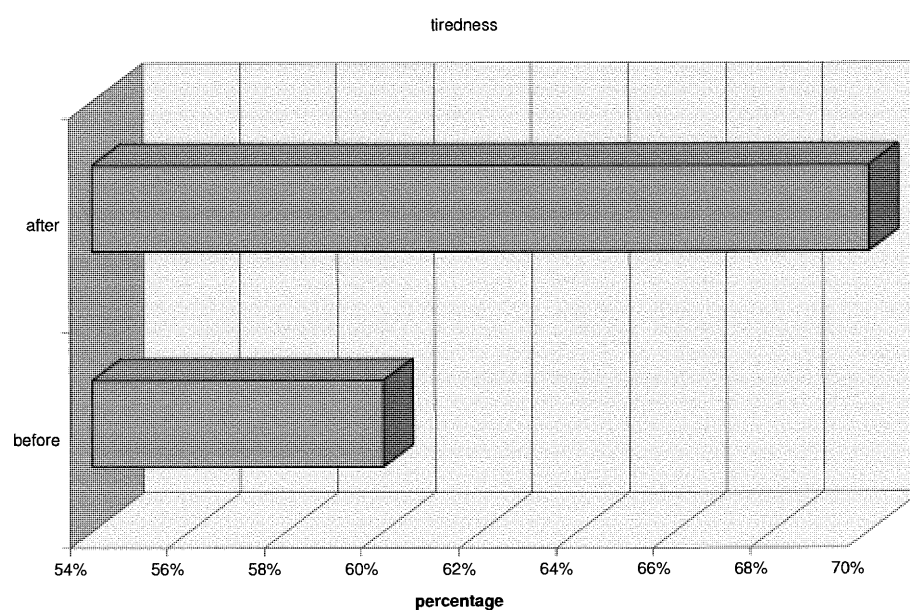
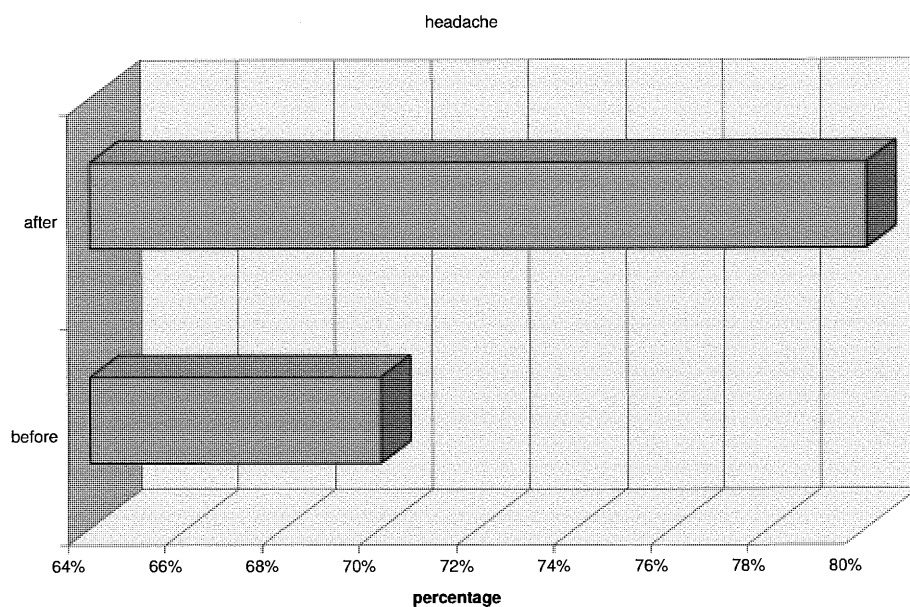
In the graphics can be seen that the pain load of the patients was clearly reduced significantly.

Three out of four types of side effects could be reduced to 0%.

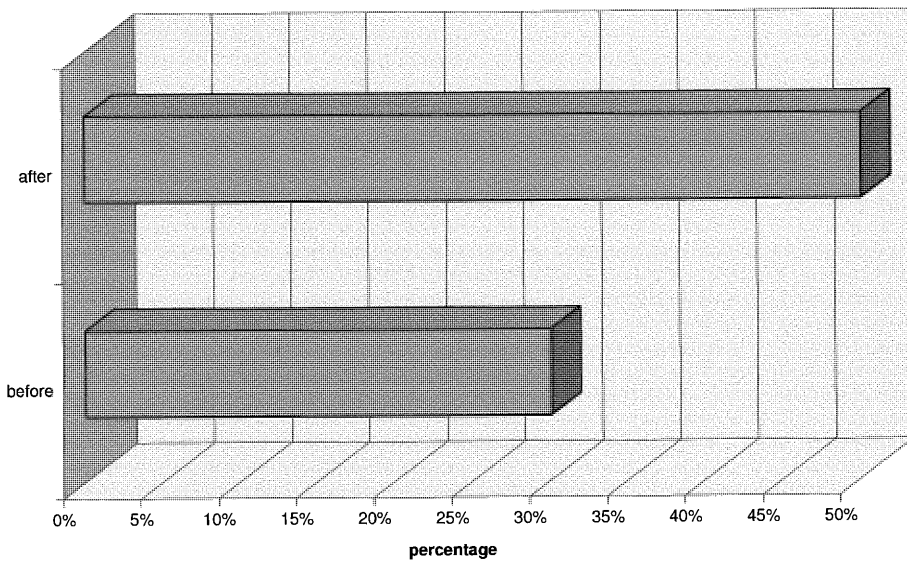
At the beginning headache was reported by 80%, dizziness by 30% and constipation by 80%.

Tiredness was reduced from 50% to 10%.

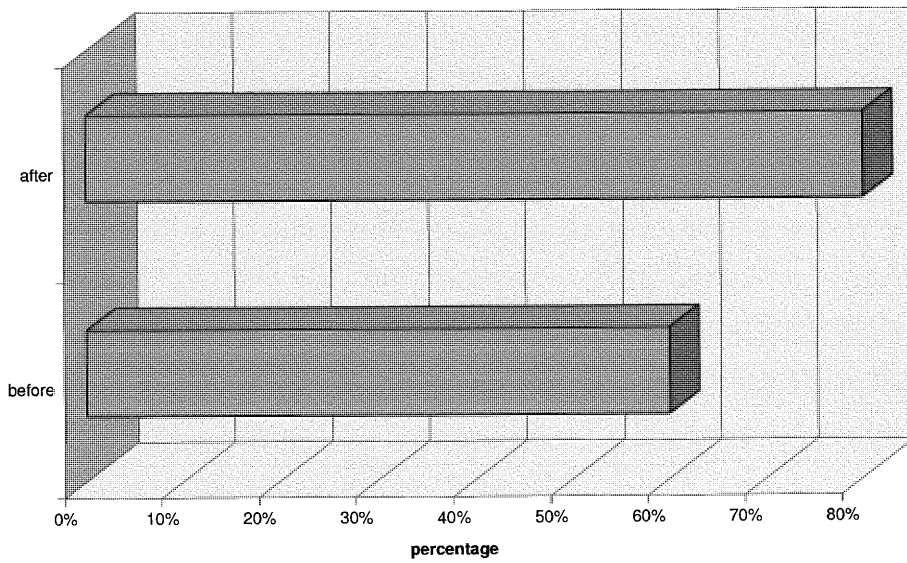
### 8.4.2. Control Group



dizziness



constipation

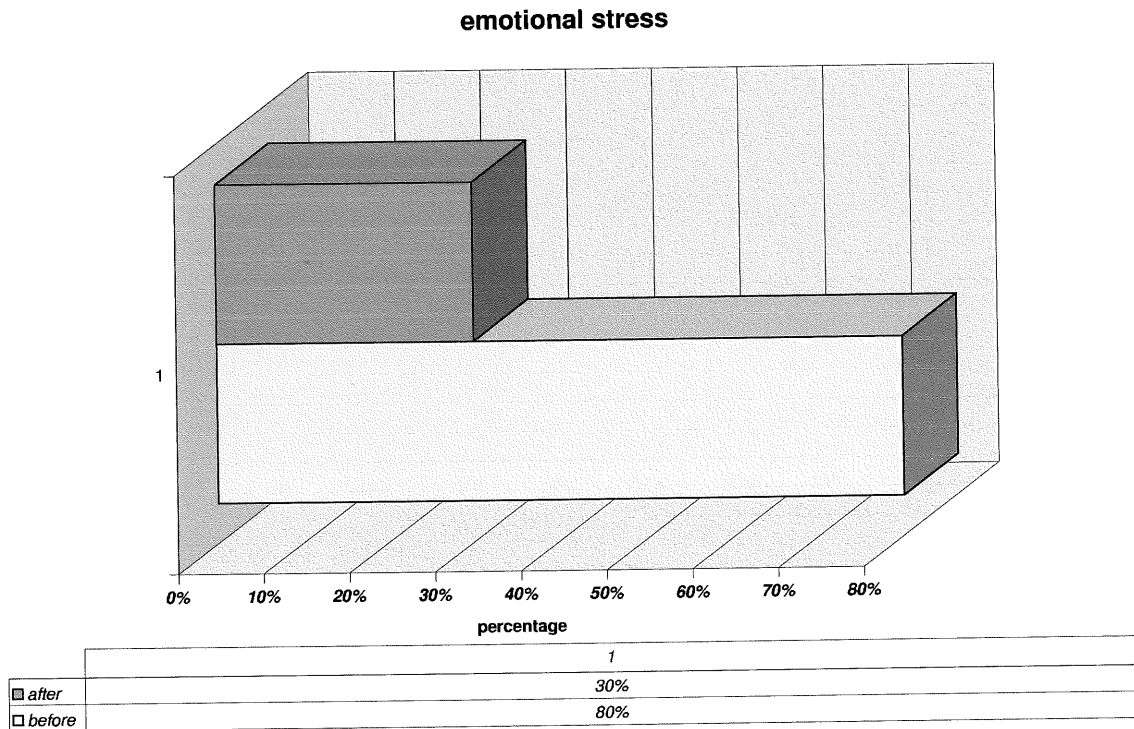


In the control group there can be seen that there is a tendency of increased side effects in the first 6 months.

Headaches increased from 70% to 80%, dizziness from 30% to 50% and tiredness was reduced by 10% and constipation couldn't be changed.

## 8.5. Emotional Stress

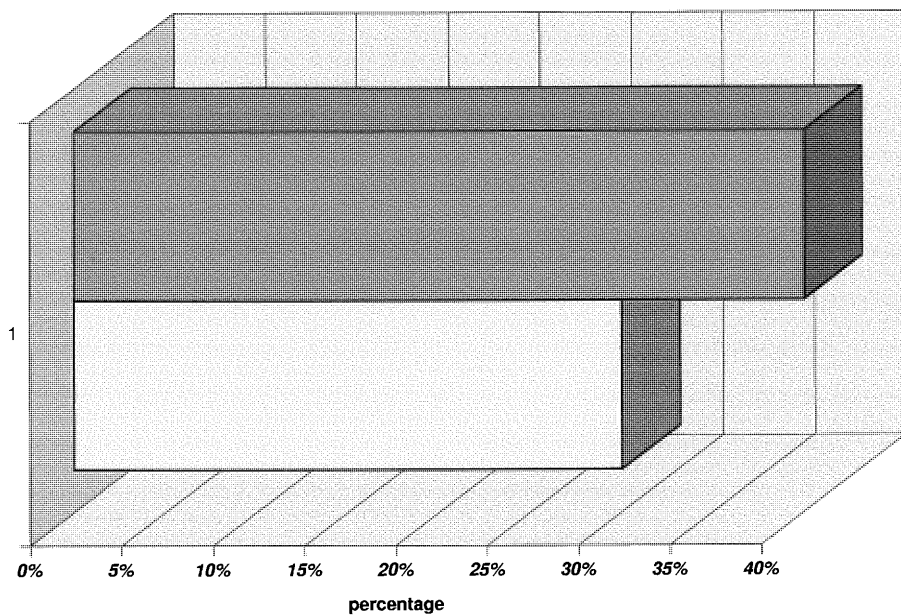
### 8.5.1. Patients who underwent osteopathic treatment



During the period of treatment the emotional stress of the test persons was reduced significantly. This can presumably be explained by the relaxing effects of the therapy. Probably the emotional relaxation supported additionally the relief of the side effects (see 8.4.1).

### 8.5.2. Control Group

emotional stress



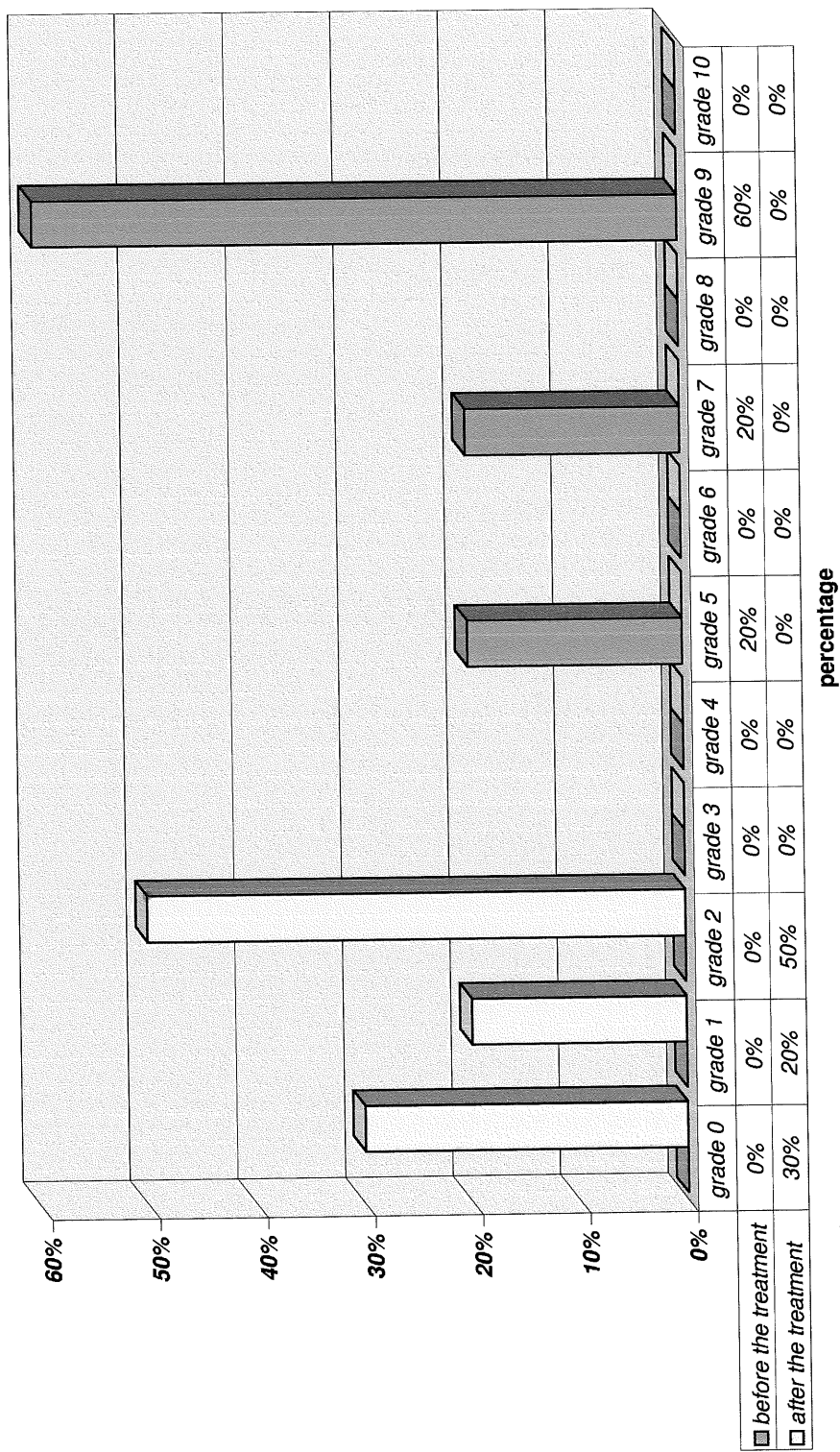
	1
■ <i>after</i>	40%
□ <i>before</i>	30%

In the control group the emotional stress rose by 10%.

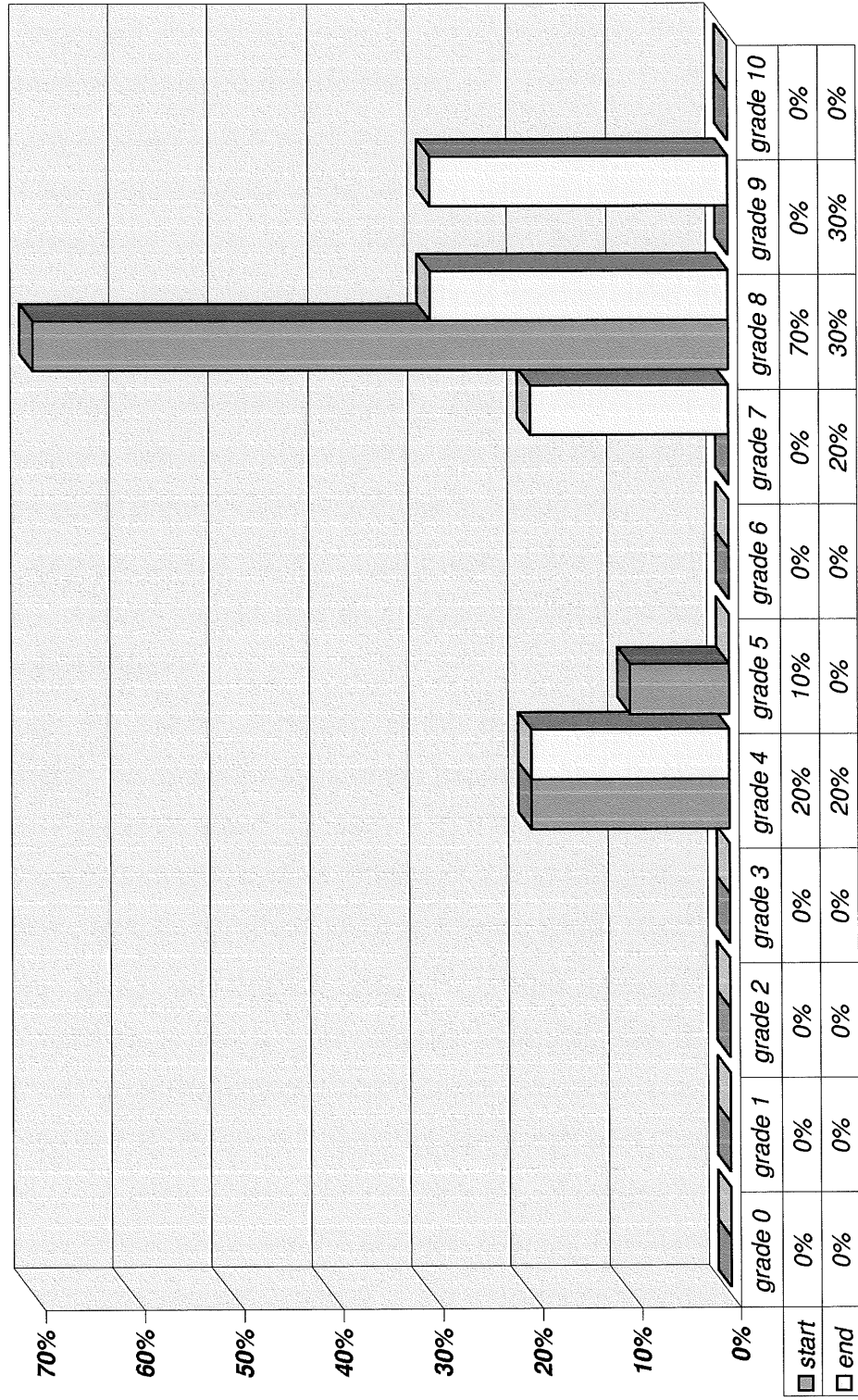


## 8.6. Pain Scale

### pain scale treated patients



**pain scale  
control group**



percentage

The pain scale shows that the pain of the patients was considerably reduced by the treatment.



## 9. DISCUSSION

It is important to me to show in my dissertation the effects of osteopathic treatment on primary dysmenorrhoea.

As many women suffer from this kind of pain I wanted to work on this issue. There are probably only a few women who can say that they have never had dysmenorrhoea which is the medical term for a painful period or a crampy menstruation. Presumably the majority of women suffer from dysmenorrhoea to a certain extent.

The myometrium contracts regularly. These contractions increase by oestrogen and they are reduced by gestagens. The basic tonus of the uterus plays a major role as far as primary dysmenorrhoea is concerned.

The relaxing effects of the osteopathic treatment on the whole autonomic nervous system should also be considered which moreover result in relaxation and tranquillisation.

Through the holistic approach of the osteopathic treatment it is possible to respond to the specific needs of the patients. As I. Rocker points out in his book "Pelvic Pain in Women"<sup>35</sup> (1990) "[...] It is [...] important to have a constructive attitude to the diagnosis and treatment and to recognise that dysmenorrhoea is a complex problem, no single treatment being totally effective...."

I have found an English article<sup>36</sup> in the Internet which states "...also dysmenorrhoea is not only a disorder of menstruation, but a disorder of the menstrual cycle, throughout which oestrogen levels and body temperatures are elevated and REM sleep is reduced compared with nonsymptomatic menstrual cycles...". A study shows that not only the oestrogen level rises but also does the body temperature and REM sleep change. I assume that these symptoms could also be changed because of the reasons mentioned above.

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35 Rocker I. 1990. Pelvic Pain in Women. Springer (Pub).

36 <http://ajpendo.physiology.org/cgi/content/full/277/6/E1013>.

## **10. ANAMNESIS AND OSTEOPATHIC TREATMENT**

The description of the anamnesis and the osteopathic treatment only presents the facts that are important for my dissertation.

None of the patients has had accidents (like for example whiplash injury, fracture) or operations.

## Patient 1

18 years, student (long hours sitting)

no partner

sports: riding

period regular for the last two years

### 1.osteopathic treatment:

scarum forward torsion left-Mitchell

diaphragm tension right more than left-mobilisation,dorsal position stretching, mobilisation of colon, esp. of colon asc. (in connection M.psoas-toxin colon asc.)

TH12 rotation right-manipulation

Uterus in expiration (inspiration not possible)-mobilisation of uterus and stretching of lamina SRGP

### 2.osteopathic treatment:

At that time big obstipation and headache

diaphragm tension right, liver motility very small:mobilisation of lig. coronarium

Compression of SSB-CVIV

### 3.osteopathic treatment:

TH10 in flexion lesion-lift

6-7 rip in extension lesion,mobilisation sitting, manipulation

### 4. osteopathic treatment:

Carried much heavy things

tension of the extensors (M. multifidi) of the whole spine-mobilisation of the whole spine with esp. stretching of the certain muscels,

soft tissue techniques

### 5.osteopathic treatment:

A bit of ache in the hypogastrium and obstipation still a bit,

Uterus,small intestine a bit fixed in expiration-mobilisation

A bit of flexion phase (opening) of the Sutura petrojugularis-CVIV

## Patient 2

23 years

shop assistant (long hours standing)

partner for 3 years

no sports, hobby: many hours knitting

on the pill from 18 to 22 years (also then primary dysmenorrhoea was diagnosed)

### 1.osteopathic treatment:

Pubis left cranial-Mitchell dorsal position

TH6-TH9 flexion lesion-lift

lig. latum left in tension-mobilisation of the pelvis,stretching

### 2.osteopathic treatment:

tension of the pelvis-techniques for relaxation of the LSRGP stomach position

stretching of M. piriformis on both sides, stretching of the diaphragm

L2 in extension lesion,psoas on both sides-stretching of the upper part of M. psoas

### 3.osteopathic treatment:

headache,vertigo is still there

left kidney ptose-correction in dorsal position

more kyphose in the BWS-mobilisation of the BWS and spines sitting

occiput in extension lesion-dorsal position techniques for mobilisation

### 4.osteopathic treatment:

Falling on the coccygis:flexion lesion-manipulation, subocc. Inhibition,venouse drainage

### 5.osteopathic treatment:

headache at the moment,compression of the SSb-CVIV

12. rib is in lesion-craniosacral therapie,stimulation

of the whole lymphatic system with craniosacral therapie

### 6.osteopathic treatment:

TH 12 in extension lesion-stretching of the diaphragm

### **Patient 3**

34 years

teacher

married

would like to have kids but hasn't got pregnant yet. gave up trying for a child.

sports: running

is not able to work when having the period

#### **1.osteopathic treatment:**

backward torsion of the sacrum right-mitchell

right m. piriformis tension,m.psoas ( upper part) left in tension-stretching of both muscles

#### **2.osteopathic treatment:**

Lig.sacrotuberale,lig.secrospinale and lig. illiolumbale in tension, sacrum nutation-mobilisation (Mitchell)

L3 rotation right-thrust

#### **3.osteopathic treatment:**

still LWS ache

tension of the muscles in the back-soft tissue techniques

#### **4.osteopathic treatment:**

still LWS ache ,no more obstipation

diaphragm tension-stretching

CVIV

#### **5.osteopathic treatment:**

Th10-TH12 in extension lesion-manipulation,mobilisation of the colon and small intestine

compression of the SSB,smaller movement of sutura petrojugularis-CVIV

#### **6.osteopathic treatment:**

no more LWS ache,wants to get pregnant (last menstruation was not )

mobilisation of the spine

## **Patient 4**

30 years, stressful job as a manager

no sports

comes across as nervous, static type

### **1.osteopathic treatment:**

much tension in the whole body,rigid,sacrum vertical-TGO

left ilium anterior, lig. sacroiliacrale and lig. illiolumbale in tension-Mitchell

compression L5-S1-mobilisation for opening the joint

sacrum,LWS active flexion is not easy-mobilisation lying on the side

Is still in tension

### **2.osteopathic treatment:**

craniosacral therapie:-CVIV,venous drainage

sternum compression -lift

### **3.osteopathic treatment:**

patient is beginning to run:3x/week for half an hour

6-8 rip in extension lesion-mobilisation sitting

scapula is higher on the right-soft tissue techniques

### **4.osteopathic treatment:**

patient is relaxed

pubis left cranial-Mitchell

lig. latum left is in tension-stretching

### **5.osteopathic treatment:**

during running LWS ache is lesser

diaphragm tension-stretching

### **6.osteopathic treatment:**

a bit tension in the uterus –sacrum-relaxation cranio

## **Patient 5**

23 years, student

no partner

sports: swimming: 6 times a week

### **1.osteopathic treatment:**

Forward torsion right-Mitchell

m.piriformis right in tension-stretching

m.psoas left in tension-stretching

### **2.osteopathic treatment:**

Headache primary on the right side Co-shenoid (eye)

Sacrum extension, lateral flexion right fixed

SSB lateral flexion right-cranio sacral therapy, CVIV

Lamina SRGP in tension-stretching

### **3.osteopathic treatment:**

Swimming a lot, hands a bit swollen-CVIV, mobilisation of the whole upper extremities

### **4.osteopathic treatment:**

Just swimming on the back, headache just at the moment

L2-L4 extension-mobilisation

C"-C4 flexion-mobilisation

### **5.osteopathic treatment:**

Swimming a lot

much tension muscles of the HWS-mobilisation and soft tissue techniques (HWS)

### **6.osteopathic treatment:**

still LWS ache

mobilisation LWS, sacrum and uterus

## **Ptient 6**

27 years, secretary (long hours sitting and working on the computer)

no partner

no sports

IUD was removed one year ago

varices, cramps in her feet every night

### **1.osteopathic treatment:**

backward torsion right –Mitchell

pelvis tension-lamina SRGP.m.piriformis,m.psoas stretching

diaphragm tension-stretching

### **2.osteopathic treatment:**

illium posterior left-Mitchell

uterus in inspiration tension left-lig. latum left stretching

### **3.osteopathic treatment:**

diaphragm tension-stretching

TH4 flexion lesion-lift

### **4.osteopathic treatment:**

a bit tension diaphragm-relaxation organs of the pelvis lifting

TH12 lesion:flexion rotation left,m.psoas in tension on both sides:stretching

### **5.osteopathic treatment:**

falling on the spine (sacrum?)-L5 rotation right-thrust

m.psoas right in tension-stretching

### **6.osteopathic treatment:**

cramps in the night:just all two weeks for one night-

craniosacral therapie for the lymphatic system



## Patient 7

30 years, dancer (high heels)

partner

can't dance when having the period

### 1.osteopathic treatment:

hyperextension LWS,lig.illiolumbale left in tension-LWS mobilisation

os pubis left caudal-Mitchell

flat diaphragm-lift,stretching

### 2.osteopathic treatment:

tension in the pelvis-lamina SRGP stretching

m.levator ani in tension-lifting of the organs in ptose

### 3.osteopathic treatment:

dancing during menstruation is possible

m.piriformis left hyperten-stretching

### 4.osteopathic treatment:

lig. sacrotuberale and sacrospinale in tension, sacrum in flexion lesion-Mitchell

### 5.osteopathic treatment:

dancing for a long time

m.psoas right more in tension than left-stretching

diaphragm tension right more than left-stretching

### 6.osteopathic treatment:

ptose of the pelvic organs-lifting

## **Patient 8**

18 years

student (stressful time before her A-levels)

no partner

no sports

### **1.osteopathic treatment:**

os illium anterior right-Mitchell

pelvis anteversion-stretching of the ext. muscle lying on stomach

tension m.psoas-stretching

### **2.osteopathic treatment:**

forward torsion right-Mitchell

TH4 FRS right-manipulation

TH9-TH12 extension lesion-mobilisation

### **3.osteopathic treatment:**

during cranial rhythm sacrum in extension and Co in flexion-better movement of the cranium with craniosacral therapy, CVIV

### **4.osteopathic treatment:**

tension m.piriformis right-stretching

L3 rotation right-thrust

### **5.osteopathic treatment:**

cranium in compression,rhythm too slow-cranio,CVIC

### **6.osteopathic treatment:**

no more troubles

TGO

## **Patient 9**

24 years, student

partner

hobby: painting on big pieces of canvas: has to stretch a lot and look up

### **1.osteopathic treatment:**

backward torsion right-Mitchell

illium posterior right-Mitchell

tension diaphragm-stretching

### **2.osteopathic treatment:**

compression SSB-CVIV

tension m.psoas left more than right-stretching front part

### **3.osteopathic treatment:**

less ache illium posterior left-Mitchell

uterus in inspiration going left –lig.latum left stretching

### **4.osteopathic treatment:**

left kidney ptose-correction lying

relaxation of the retroren. Fascia

### **5.osteopathic treatment:**

pelvis-stimulation by palpation an mobilisation

### **6.osteopathic treatment:**

tension diaphragm-stretching

## **Patient 10**

33 years, housewife

married

always in action

### **1.osteopathic treatment:**

os pubis cranial left-Mitchell

lig.latum left in tension-stretching

tension of the shoulder muscles-stretching,soft tissue techniques

### **2.osteopathic treatment:**

tension in pelvis,m.piriformis on both sides right more than left-stretching lamina SRGP

TH12 extension lesion-stretchin diaphragm

### **3.osteopathic treatment:**

sacrum hurts (S2-S4),lig. sacrouterinum in tension-lamina SRGP stretching

backward torsion right-Mitchell

m.psoas right in tension-stretching

### **4.osteopathic treatment:**

uterus is going to the right during inspiration-stretching lig. latum right lying on the side

### **5.osteopathic treatment:**

Co rotation lesion right-thrust

### **6.osteopathic treatment:**

uterus in inspiration-mobilisation

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