Die Anwendung von visceralen Techniken in der Osteopathischen Praxis in Österreich

Fragebogenstudie

Master Thesis zur Erlangung des Grades

Master of Science in Osteopathie

an der

Donau Universität Krems

Niedergelegt an der

Wiener Schule für Osteopathie

von

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Seekirchen, Dezember 2007

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The most beautiful thing we can experience is the mysterious.
It is the source of all true art and science.
Albert Einstein

1 Introduction

Osteopathy is a holistic method in which the hands are used for diagnosis and therapy. Its aim is the recovery of mobility and thus of the potential for spontaneous healing. This is made possible by using the structure of the human body.

(WSO[1], 2007)

For the evidence of scientific statements it is of primary importance to have a clear definition of terms. *"Am Anfang einer Wissenschaft oder der Erkundung eines einzelnen neuen Bereiches der Wissenschaft steht daher der Versuch, diesen Ausschnitt der Realität (z.B. „Stadt") in Elemente zu zerlegen, die Objekte und Merkmale zu bezeichnen. [Hence, at the beginning of a science or a investigation of a single new area of the science stands the attempt to disassemble this cutting of the reality (e.g., "town") in elements, to call the objects and signs.][2] "*(Friedrichs, 1985 S.73)

Thus the terms structural osteopathy, cranial or craniosacral osteopathy and visceral osteopathy have to be defined:

In osteopathic training, osteopathy is divided into three major fields, called structural osteopathy, cranial or craniosacral osteopathy and visceral osteopathy.

The term structural osteopathy implies all techniques concerning the mobilisation and correction of joints, muscles, tendons, ligaments and fasciae: it contains a) GOT (General Osteopathic Techniques) for the systematic examination and mobilisation of dysfunctions of the spine and the extremities, b) osteoarticular techniques using specific movements (functional correction), c) muscle energy techniques according to Mitchell, d) proprioception reprogramming according to Jones (strain/counterstrain) and e) myofascial techniques. The anatomic continuity of the fascial systems permeating the human body is assigned a special position in osteopathy, because all body tissues are closely interrelated through fascia. (WSO, 2007)

1 The WSO " Wiener Schule für Osteopathie" was founded in co-operation with the Collège International d'Ostéopathie (CIDO) in St. Etienne (France) in 1991
2 text put in brackets [...] marks translation of quotation by Anna Walchshofer

Cranial or craniosacral osteopathy deals with the cranio-sacral system as composed of both the mobile structure of the cranial bones and the sacrum, which are closely interrelated through the inelastic dural duct and the cerebrospinal fluid. Thus ultrafine movements are transmitted from inside the skull to the sacrum and vice versa by this hydraulic system. (WSO, 2007)

The third part in the field of osteopathy is visceral osteopathy. It concerns the evaluation and treatment of the mobility and intrinsic rhythm of the internal organs and contains a series of different techniques called visceral techniques. As in all other tissues, mobility as the most important factor to ensure an optimum of function in the body also forms the basis of visceral osteopathy. (WSO, 2007)

1.1 Personal interest

While working with patients[3] in my therapist's office it was a major challenge for me to follow the osteopathic principles, starting from the job image of a physiotherapist, and creating an osteopathic treatment composed from the many acquired techniques of the fields structural osteopathy, cranial or craniosacral osteopathy and visceral osteopathy and thus developing from a Physiotherapist to an Osteopath.

While training as a phyiotherapist (Physio-Austria[4], 2007) the main focus of the acquired and applied techniques of treatment lies on the field of the active musculosceletal system, meaning the bones, joints, muscles, ligaments and tendons and the nerval system of the human body – the field, osteopathy calls structural osteopathy.
Therefore the theoretic and practical approach to structural osteopathic techniques was quite easy for me.
Even before training as an osteopath, I have been fascinated by the ideas of the cranial or craniosacral field of osteopathy, which is based on stuctures very well known to physiotherapists, like skull bones, brain, spinal chord and the nerval system.

At the start of my osteopathic traning, the visceral field was the one I was least familiar with, except from the aspect of internal medicine, to which I only had a superficial approach, given the manual job of a physiotherapist.

3 The terms related to persons used in this thesis like "patient" comprise women and men to the same extent.
4 Physio-Austria, Federal assiciation of Physiotherapists in Austria

This led me to having the most catching up to do in the area of visceral osteopathy in both anatomy and physiology and I had to deepen myself most in this field.
Thus, my interest for visceral osteopathy was sparked, because I realized I found a tool that completed my view of the human being as a unity and opened therapeutic methods in the treatment of my patients I did not know until then.

My special interest is the integration of visceral osteopathy in the overall concept of osteopathic therapy due to two specific reasons:
a) for personal reasons, because I taught "Introduction to Visceral Techniques" at the Wiener Schule für Osteopathie.
b) because during the course of my own training and my job as an assistant I realized that, especially in the field of visceral osteopathy, time and again adaptations of the curriculum at the WSO had to be made in order to transmit the overall concept of osteopathy in a satisfactory manner to the students.

1.2 Illustration of the Central Question

In Austria, training as an osteopath is only possible as extra-occupational training for certain medical basic occupations (doctors, physiotherapists). (WSO,/ IAO[5], 2007). To be able to start the osteopathic training at the DOK[6] in Germany, the conditions of the BAO[7] apply, which permit physiotherapists, doctors or alternative practitioners as basic occupation.

Due to legal reasons, pracitising osteopathy in Austria is only permitted to doctors and physiotherapists. (Krönke, 2003 / Ofner, 2004 / WSO, 2007) Of all osteopaths working in Austria, more than 70% are physiotherapists in their basic occupation, 20% are doctors and the rest is distributed on other professional groups (Krönke, 2003).

During my own training and my experiences as an assistant and lecturer at the WSO, I gained the impression that the main proportion of the students, especially those with a background as physiotherapists, is less familiar with content from the area of visceral osteopathy than with structural osteopathy.

5 IAO International Academy of Osteopathy
6 DOK, Deutsches Osteopathie Kolleg is the German sister school of the Canadian College of Osteopathy in Toronto and College d´Ètudes Osteopathiques in Montreal. Osteopathic training is presented part time per 6 years.
7 Bundesarbeitsgemeinschaft für Osteopathie Deutschland – Federal studygroup for Osteopathy Germany

During the first years of training for osteopaths at the WSO, visceral techniques were only taught from the students' fourth year on.
Later, this content of the curriculum was placed in earlier years of the training. Thus, since 2005 teaching of visceral osteopathy starts already in the second year with "Introduction to visceral techniques." (WSO, 2007 Curriculum)

These adaptations of the curriculum were necessary, because supervisions students had to do during their training, showed an imbalance between techniques from visceral osteopathy in favor of the techniques from the structural and cranial field. (Ligner, 2007)

Similar observations were described by osteopaths in the earlier years of osteopathy: *„...the visceral lesion is frequently overlooked as being of much moment as an osteopathic lesion."* (McConnell/Teall,1906 S.8)

While talking to professionals (colleagues) I gained the impression, that many osteopaths specialize in using exclusively techniques from the field of structural or craniosacral osteopathy. This is emphasized by the fact, that physiotherapists show a high interest in training and furher education with regard to craniosacral osteopathy (Wojna 2006).
Krönke (2003) shows that in their therapists' offices, Austrian osteopaths split the use of the three osteopathic concepts into 42% structural, 40% craniosacral and 18% visceral osteopathy. *„Although in daily work the three concepts of osteopathy can not be separated, it is interesting to observe that the visceral part is only 18 % of all concepts."* (Krönke, 2003 S.40) Mayer-Fally (2007) gains a similar result: *„Visceral techniques are the least used in all groups."* (Mayer-Fally 2007 S.117)

The following questions result from my own experiences and from the demonstrated facts concerning the training and further education of osteopaths:
a) which techniques from visceral osteopathy are used in diagnostic evaluation? b) which techniques from visceral osteopathy are used during therapy? c) is there a difference between the frequency of the use of visceral techniques between doctors and physiotherapists?
These questions brought me to do a investigation on the topic of:

The Use of Visceral Techniques in the Osteopathic Practices in Austria

1.3 Structure of the Thesis

This masterthesis is divided into three parts: a theoretic one, a methodic one and one with the results of my investigation.

The theoretic part deals with the general development of concepts for treatment and techniques in osteopathy, and focusses on the development of techniques in visceral osteopathy and the importance of visceral osteopathy.

The second part will give an insight into my considerations concerning the choice of methods, the development of my questionnaire for collecting data and the evaluation of the collected data.

The last part of the thesis explains the evaluation of the collected data and the results of my thesis will be discussed.

2 Theoretical Part

2.1 Osteopathy – Technique or Philosophy?

"Osteopathy is knowledge or it is nothing"
(Still, 1899 S. 233)

Abb. 1

In the second part of my thesis I will exclusively investigate the frequency of use of specific techniques from visceral osteopathy in osteopathic offices under certain conditions, which will be explained more closely in chapter 3 and 4.

Due to the fact, that an isolated use of specific techniques does not compose a complete osteopathic treatment, I think it is appropriate to consider the discussion whether osteopathy is a technique or a philosophy, a discussion long since led among osteopaths.

Even if manipulation plays a major role in osteopathy, osteopathy is not a mere system of systematic manual maneuvres, but a system *„..that includes all methods of healing that have been found thrustworthy and scientific".* (McConnell, 1899 S 11). Besides carrying out mechanic corrections on different tissues of the human body, this system takes into consideration the personal living conditions of the patients, their alimentation, personal hygiene, professional and personal environment and other aspects having an influence on their health (McConnell, 1899).

From the start of osteopathic treatment of patients, different methods are used, which set up a bigger frame of therapeutic activities. This activities range from the application of manual maneuvres to the teaching of exercises and every day training for patients.

During the early years of osteopathy, some osteopaths focus entirely on the spine of the patients, manipulate all joints of the spine, keen to achieve the typical sound of a manipulation. (Green, 1921)
Others only use very delicate tissue techniques which show no impulse of the therapist, others think that the manipulation of a single bodily structure is enough to relieve a patient of all complaints he describes.
During this time, due to a lack of sufficient diagnosis, treatments are similar to massages, treatments with electrotherapy or other auxiliary means. All these different concepts of treatment run under the name of osteopathic treatment and thus draw sharp criticism from those osteopaths who consider these methods too unspecific.
This criticism aims at the fact, that these treatments do not follow osteopathic principles appropriately, are not scientifically profound and show major deficits in diagnostic evaluation. (Green, 1921)

> *"If I mistake not, some of the members of the profession look upon technic as the main factor in the practice of osteopathy, losing sight of the fact that the minute, detailed, physical diagnosis is the outstanding, most valued factor in the treatment of any diseased condition of the human body."*
>
> (Clark, 1952 S.139)

Murray (1925) shares this opinion, saying: *„The most important part of osteopathic procedure is the examination of the patient, the determination of the lesion, the discovery of what is wrong in the human building."*
Hoover (1949) agrees by writing: *"Technic must be as carefully conceived and as reasonable as the diagnosis which precedes it."* (Hoover, 1949 S.39)

Osteopathic literature does not give a lot of information on how Andrew Taylor Still used his manipulative maneuvres and techniques in his treatments and maybe that is what Still wanted, because for him, philosophy and principles were crucial, the technique being only a tool for their application. (Fossum, 2001)

Nevertheless, it is especially the techniques which allow the application of osteopathic ideas in a therapeutic treatment. *"And yet osteopathic technic is the only medium between our scientific knowledge and the diseases it should benefit."* (Tucker, 1917 S. 2)

Therefore, there had always been aims to write manuals and textbooks for the teaching of osteopathic techniques, which aim at a specific replicability and standardization of osteopathic techniques. (McConnell, 1899)

Hollis (1914) thinks that it is not recommendable, to standardize osteopathic methods of treatment in a technical way, because this way the osteopath can't do justice anymore to the individuality of the person he is treating. According to his opinion, there should be specific standards for the techniques nevertheless, but only with regard to the osteopathic principles.

> *"Our task therefore will be to show clearly the principles and tentatively to suggest methods of application."*
>
> (Hollis,1914 S.1)

Other osteopaths of this time think that understanding anatomic and physiological processes inside the human body is far more important than imitating specific maneuvres without this precondition.

> *„Learn to treat understandingly; imitate no operators motions."*
>
> (Hazzard,1898, S.4)

The term technique is confronted with the term art in osteopathy:

> *"Technique is 'the manner of artistic performance; the details, collectively considered, of mechanical performance in art.' Now what is art? Webster says that art is 'the skillful and systematic arrangement or adoption of means for the attainment of a desired end.' The 'desired end' in osteopathic practice is the correlation of the physiological action of the human body through normalization of the relationship of structure".*
>
> (Green, 1921)

But it is the basic principles of osteopathy which unite the variety and diversity of osteopathic techniques and concepts of treatment. (Liem et al. 2006)

> *"Although osteopathy employs the practice of manual medicine, it is not just a set of techniques. It is a philosophy and a science based on the application of sound principles."*
>
> (The Cranial Academy, 2007)

Even today the discussion "Osteopathy – technique or philosophy" plays a major role. The roots of osteopathy in the development of western philosophy is crucial for the understanding of the osteopathic philosophy's development. (McKone, Liem Hrsg. 2006)

„ Wenn wir versuchen, am Patienten Techniken anzuwenden, technisieren wir den Patienten in erster Linie und behandeln ihn philosophisch als tot". [If we try to use techniques on the patients, we mechanize the patient and philosophically we treat him as dead.]" (McKone, Liem Hrsg. 2006, S.42)

Conclusion:

Is osteopathy a technique or a philosophy – generations of osteopaths have pondered this questions since A.T. Still discovered osteopathy. But in osteopathy the terms technique and philosophy are not contrasts, but complete and support each other. Osteopathy is a medical concept for the treatment of illnesses which uses a great variety of manual intervention. Even though these techniques do show profound differences in their application, they share an uniting, superordinate philosophy, on which different concepts for treatment are based.

It becomes evident how strongly these two terms are rooted in osteopathy and how they support each other. The philosophy is the foundation for the techniques and the techniques serve as tools for the practical application of this philosophy and its principles.

> *"If you understand the music, all you have to do to express the meaning, is to know and apply the technics. Osteopathy and music have something in common. If you understand the human body, all you have to do to produce health, is to know the technics." Hoover (1949 S.33)*

2.2 The Development of Techniques in Osteopathy

The starting point of medicine is further back in history;
the starting point of Osteopathy is further back in Nature.
E. E.Tucker

Abb.: 3

After years of frustration by the existing sytem of medicine in the time of the Civil War, the American doctor Andrew Taylor Still founds his own school of medicine, which he calls osteopathy. Closely observing anatomy and based on basic physiological considerations, he develops manual techniques, which, according to his opinion, improve his possibilities as a doctor for treatment. (Jones, 2001) It is his aim,

> *„… eine Schule der Osteopathie zu errichten, deren Struktur das gegenwärtige System der Chirurgie, Gynäkologie und der Behandlung von Krankheiten allgemein verbessert, sie auf eine stärker rationale und wissenschaftliche Basis stellt und Informationen an die medizinische Welt weitergibt."*
> *[„...to set up a school of osteopathy, whose structures improve the current system of surgery, gynaecology and the treatment of illnesses generally, puts them on a stronger rational and scientific basis and passes information on to the medical world."]*

(Northup,1966, S16)

But for Still himself, the techniques never take center stage in osteopathy:

> *„It is my object in this work to teach principles as I understand them, and not rules. I do not instruct the student to punch or pull a certain bone, nerve or muscle for a certain disease, but by a knowledge of the normal and abnormal, I hope to give a specific knowledge for all diseases."*

(Still,1899 Foreword)

Step by step, various techniques are developed in osteopathy: There are techniques where the osteopath pushes the structures which are involved in the illness directly back into

their normal position, those which, contrarily, separate the structures involved, others use strong levers and direct force, others use the lightest touches. (Lippincott, 1961)

A basic idea in osteopathic practise of this time is the opinion, that a stiff or hurting joint following an injury, which leads to a subluxation of the joint or at least a dislocation of the bone structure, can be responsible for the emergence of diseases in the whole body. For the treatment of these defectively positioned joints they use impuls-techniques, which are called "Thrust-techniques" or "High velocity – low amplitude – techniques." " . *„Sie wendeten einen spezifischen Impuls an, um eine Lösung des Gelenks zu bewirken und die freie und schmerzlose Beweglichkeit des schmerzhaften Gelenkes wiederherzustellen."* [*They used a specific impulse in order to achieve a loosening of the joint and to recreate the free and painless mobility of the joint.]"* (Jones, 1995)

These so-called „direct techniques" *„ ...die Methode einen Knochen oder ein Segment der artikulären Läsion direkt in eine normale Beziehung zu dem Nachbarn zu bewegen" [...the method of moving a bone or a segment of the articular lesion direcly into a normal relation to its neigbour]"* (Hoover, 1998, S. 42), were wide-spread as standard techniques in the early years of osteopathy and one of the reasons for the successful establishment of osteopathy.

Apart from the description of direct forms of treatment like articulation and thrust-techniques, the osteopathic literature from 1900 to the late 1930ies also describes "indirect techniques". They aim to achieve a relaxation of the tissue by articulating it in the direction of the exaggeration of the lesion and thus trace back the way of the lesion until it is corrected by the inherent aptitude of the tissue. (Fossum, 2001)

But already in the early years of osteopathy, the osteopathic principles are not only applied to defectively positioned joints, but also to other tissues of the body.
McConnell (1899) gives very detailled practical information about the treatment of various diseases. He write p.e. about the treatment of liver diseases:

> *„ Press slowly but firmly over the region of the ducts, then execute a downward motion with firm pressure to the course of the ducts. This performance should be repeatet several times, until the tenderness is almost or entirely relieved from this region."*
>
> McConnell (1899 S. 356)

The development and description of further specific techniques is not only restricted to the structural and visceral field, but develops especially in the cranial field. William Garner

Sutherland, with his hypothesis of the function of the cerebrospinal fluid and the movement of the cranial structures, the skull bones, the dural membranes and the movements of the sacrum, developed an osteopathic field which found entry into the Curriculae of osteopathic training unter the title of "cranial technique." Nevertheless, for Sutherland this concept is not a specific form of therapy, but an integral part of osteopathy. *„In all his teachings, Dr. Sutherland never failed to emphasize that the cranial concept was only an extension of, not apart from Dr. Still´s science of osteopathy."* (Becker, 1997)

Working with a primary respiratory mechanism is characterized by the opinion that, by using slow and carefully adjusted force in the direction of the free mobility of the structures, the physiological relations are regained. (Sutherland, 1929)

In the further development of osteopathy, the preparation of specific technique plays an ever more important role. *"Over time various osteopathic manipulative approaches have been developed to apply these principles to the treatment of patients".* (Becker, 2000 S. XIX)

In his concept Hoover (1958) developed a method for the treatment of defectively positioned joints where he moves the joint in the direction of minimum resistance into a position he calls „dynamic neutral position", until the anatomical neutral position in the specific joint is restored. These techniques found entry into the repertoire of structural osteopathic techniques under the name of "Functional Technique."

Later on, osteopathic techniques are called after the structures they treat, such as the Muscular-Energy-Technique (Goodridge, 1981) or after the principles they are based on, such as the Strain-Counterstrain-Method (Jones, 2001), often the techniques are named after the person who described them first (Mitchell-technique, Jones-technique).

The concept of a somatic dysfunction, based on mechanic, structural dysfunction, developes into the concept of a reactionary-neuromuscular dysfunction. (Jones 1995)

With osteopathy, Andrew Taylor Still developed a philosophy and method of treatment which is subjected to a continuing extension of its technical form of application and still continues to develop.

A constant scientific scrutiny and critical observation of its principles constitute a profound basis in the development of osteopathic techniques, which have contributed to the success and the development of osteopathy.
Thus, the terms structural, cranial and visceral techniques are only used in didactic environment in text books and the curriculae of osteopathic schools in Europe.

2.3 The Development of Visceral Osteopathy in the USA and Europe

Abb: 2

„Die viscerale Osteopathy ist eine der drei osteopathischen Säulen, die es zu berücksichtigen gilt, um eine ganzheitliche Behandlung im osteopathischen Sinn zu erreichen. Die Erforschung der visceralen Osteopathy erweist sich hierbei jedoch als ein Ergebnis der Neuzeit."
[„The visceral osteopathy is one of the three columns which have to be taken into consideration in order to reach a holistic treatment in an osteopathic sense. However, the investigation of visceral osteopathy turns out to be a result of modern times."]

(Fieuw / Ott, 2005 preface)

An osteopathic treatment comprises techniques from all three fields of osteopathy, the structural, craniosacral and visceral osteopathy. Even though the investigation of visceral osteopathy started in the younger past, these techniques trace back to A.T. Still and his contemporaries as well, who manipulated in the field of the intestine as well, if necessary for the treatment in question. (Fossum, 2001)

These manipulations of the organs in the area of the adomen were called "ventral techniques" by Still and his colleagues.

„Der Begriff der Osteopathischen Läsion war also nicht auf Gelenkskomplexe beschränkt, vielmehr identifizierten Still und seine damaligen Mitarbeiter fünf verschiedene Arten von Läsionen: ossär, muskulär, ligamentös, visceral und zusammengesetzt."

[„The term of osteopathic lesion didn't only refer to the complex of joints, moreover, Still and his colleagues identified five types of lesions: osseous, muscular, ligamentous, visceral and composite."]

(Liem et al. 2005 S. 2)

The osseous lesion is represented by any abnormal change of position or relation of the bony component of the body. The osseous lesion is caused (a) by traumatism, e.g., strains, falls, blows, etc.; (b) indirectly by atmospheric changes, or violent exercise, etc., through the medium of muscle changes; (c) by nutritional effects disturbing the elements of bony tissue; (d) compensatorily and reflexly through the media of body distortions and muscular irritability or weakness. (McConnell / Teall, 1906)

The muscular lesion is characterized by an actual dislocation of either muscle or tendon, commonly it is a contracted, tensed or contractured muscle. The muscle may be diseased either from primary or secondary sources and thus be an etiological feature. The muscular lesion is caused, (a) by direct or indirect violence, (b) by reflex irritations, (c) by atmospheric influence, (d) by compensatory changes, (e) by diseases causing hypertrophy or atrophy, and – the most frequent origin – (f) secondary to osseous lesions, being the result of an impingment to the nervous control of the muscles. (McConnell / Teall, 1906)

The ligamentous lesion is usually of secondary importance to the osseous lesion. When considering this lesion, there are two features that should be noted in particular, first, thickenings and adhesions, and second, relaxations of the ligamentous structures.

Visceral lesions, where visceral displacements alone are acting as a source of functional and organic disturbance on the physical plane are not in the least uncommon. Any or all of the abdominal viscera, or even the organs of the thorax, may be displaced physically and pathologically. Actual displacement of the organ is a frequent source of distinct disorders and many symptoms and diseases. Visceral lesions are caused by, (a) vertebral lesions, (b) postural defects, (c) nutritional disorders, (d) direct violence, (e) pregnancy and childbirth, (f) unhygienic measures, or (g) congenital weakness. (McConnell / Teall, 1906)

The term composite lesion means a structural lesion that primarily includes the osseous, muscular, and ligamentous tissues as a whole. It is not always recognized as a very important osteopathic factor, but composite lesions occur exceedingly frequent. (McConnell / Teall, 1906)

But Still (2002) issues a warning concerning the use of osteopathic techniques in the visceral field: *" „Bei der Behandlung von Patienten besteht beim Drücken, Ziehen und Kneten des Abdomens immer die Gefahr, mehr Schaden anzurichten als zu Nutzen."* [*Pulling, pushing or kneading the abdomen while treating the patient can do more harm than good.]"* (Still, 2002 S. 373)

In the same chapter, Still underlines the importance of a fundamental anatomic and physiological knowledge of the organs in the abdominal area, just like this knowledge is essential for all other body parts for practising of osteopathy.
He emphazises the importance of the investigation of the abdominal organs and of all other anatomical structures which are responsible for the suspension of the organs on the spine and on other parietal structures, and gives indications for the treatment of the viscera applying osteopathic principles if this is necessary for the treatment of the patient in question. (Still, 2002 S. 382 ff)

At the turn of the century, around 1900, Gaddis, Lippincott, Littlejohn, Smith, Teall and Young rank among those osteopaths which already in those early years extended the application of osteopathic techniques to the treatment of the body cavities and organs with special consideration to the fascial relations (Liem et. al. 2005).

Around 1950, osteopaths take the movements of the organs, caused by the thoracic diaphragm, into special consideration.

> *"All of the organs and tissues of the abdomen have respiratory movements with the exception of the radix mesenterica which is immovably fixed (...) the radix mesenterica is the hilum of the peritoneal cavity, the center around which respiratory movements of the abdominal organs take place."*
>
> (McConnell, 1951 S. 10)

The extent and the directions of movement, transferred by the thoracic diaphragm to the different organs in the upper abdomen and the underbelly, are the subject of different investigations in the 80ies and 90ies. The results of these investigations confirm the hypothesis of the osteopaths from the 1950ies and are summarized in the following table:
Overview of the abdominal movements caused by respiration:

The indicated movement of the organ corresponds to the change of position from inhalation to exhalation. AP = antero-posterior, KK = kranio-kaudal, SI = supero-inferior.

Author	Organ	Movement in mm	Details
Balter et al.(1996)	Kidney (links, right)	18±6	AP / normal respiration
Swart (1994)	Kidney	<43	SI / normal respiration
Moerland et al.(1994)	left kidney	2-24	normal respiration

(Liem et al. 2005 S. 9 / translated by A. Walchshofer)

Moerland et al.(1994)	right kidney	4-35	normal respiration
Moerland et al.(1994)	left kidney	10-86	forced respiration
Suramo (1984)	kidney (left, right)	19(10-40)	KK / normal respiration
Suramo (1984)	kidney (left, right)	40(20-70)	KK / forced respiration
Davies et al.(1994)	diaphragma	7-28	SI / normal respiration
Balter et al. (1996)	liver	17±5	AP / normal respiration
Suramo (1984)	liver	25(10-40)	normal respiration
Suramo (1984)	liver	55(30-80)	forced respiration
Suramo (1984)	pancreas	20(10-30)	normale respiration
Suramo (1984)	pancreas	43(20-80)	forced respiration

(Liem et al. 2005 S. 9 cont./ translated by A. Walchshofer)

Lenius (2007) showed that the pancreas declines in cranial direction at maximum inhalation up to 64,5 mm. Among all the examined persons there are also horizontal movements (on the average 6,2 mm and –7,7 mm on one's back, 8,2 mm and –8,2 mm in left half-declination and 6,7 mm and –4,4 mm in right side position), but they are notably smaller than the cranio-caudal movements.

Based on the work of Korr and Denslow, during the 70ies and 80ies the attention turns increasingly toward the viscerosomatic or somatovisceral reflexes and their effects in the mutual influence of parietal and visceral structures, concerning both the emergence of illnesses and their treatment. (Johnston, 1998)

The concept of visceral manipulation is marked by the work of Jean-Pierre Barral and Pierre Mercier and since then it can be found especially in many European osteopathic textbooks. (Liem et al 2005)

In his concept Barral (1988) assumes, that the physiological movements of the organs are a basic condition for the general health of human beings. He divides these physiological movements into two categories: the visceral mobility, caused by deliberate movements of the body or the movements of the thoracic diaphragm, and the visceral motility, an inherent movement of the organs.
Coining the term of visceral joints, he establishes an analogy to the joints, which have slip surfaces and suspensions themselves; he defines an axis of movement and directions of movement and describes the systems responsible for the different movements of organs. (Barral/Mercier 1988)

In American osteopathic literature, neither the term of visceral osteopathy nor the term of visceral manipulation is used. *„Im „Lehrbuch der osteopathischen Medizin" von Greenman ist nicht eine einzige viscerale Technik aufgeführt, findet sich kein Hinweis auf eine viscerale Osteopathie".[In "Textbook of osteopathic medicine" by Greenman, not a singular visceral techniques is described, there is no indication of visceral osteopathy.]"* (Buchmann, 2002)

Not even in the Curriculum of the Kirksville College of Osteopathic Medicine or in the „Overview of osteopathic manipulative techniques" of the American Academy of Osteopathy, visceral osteopathy or a visceral technique is mentioned one. (AAO 2007; ATSU, 2007)

Conclusion:

Visceral osteopathy has its origin, like the structural and cranial osteopathy, in the osteopathy of Andrew Taylor Still and was considered an important part of osteopathic medicine by the earlier osteopaths in America.

Based on the insights and techniques of the earlier osteopathy concerning the visceral plane of human beings, Jean Pierre Barral and Pierre Mercier specialized with their work on the osteopathic philosophy in the visceral field and developed the concept of Visceral Manipluation.
This term has been quite successful in osteopathic literature and osteopathic training in Europe, but is not very common in the US, even though osteopaths work in the visceral field.

2.4 The Importance of the Visceral Component in Osteopathy

"The biophysical indispensableness of the ventral plane is as significant as that of the spinal plane. (…) Those who overlook ventral technic are practicing a greatly limited osteopathy."

(McConnell, 1951 Vorwort)

Taking into consideration the visceral field, is a basic condition in osteopathy. This assessment about the importance of the visceral field dates back to the roots of osteopathy. Even though the different levels possess a certain physiological independence from each other, they are connected inseparably. The visceral field cannot be considered seperatedly from the bodily entity of the human being. (McConnell, 1951). There is both a direct mechanic relation and a reactionary relation via the nerval system between the somatic structures of the skeleton and the visceral structures. This relation represents a part of the connectivity of all structures of the human body. (Bradford, 1958)

"Somatic and visceral function are closely interrelaxed. Every tonic or motor response of skeletal muscle probably is accompanied by visceral response. "

(Kuntz, 1951 S. 67)

From the close interaction between somatic and visceral function, a necessity arrises to always take into consideration the entirety of the human being, both in the diagnosis and the treatment of illnesses, i.e. the structural and cranial aspects as well as the visceral aspects.

"There is no such thing as a sick organ; there is only a sick man. Treating the part alone is not treating the man, while treating the man is to treat the part too."

(Korr, 1960 S. 130)

The prior quotation expresses very strongly the interrelation between all human structures, all organic and functional systems inside the body and also explains the necessity of a holistic approach to the treatment of patients.

A feature of so-called holistic approaches of medicine is the principle of holisticism, which considers the human being as an entity of inseparably connected elements of body, spirit and soul, influenced by his surrounding and environment. (Liem et al, 2006) This way of thinking has emerged in a specific cultural environment from differents school, such as the traditional Chinese medicine, shamanism, Tibetan and ayurvedic medicine or the ideas of brilliant and progressive thinkers like Paracelsus, Hildegard von Bingen, Hahnemann or Still. (Hermanns, 2007)

The osteopathic medicine comprises a holistic philosophy, which sees the body as an entirety from interactive systems serving the maintainance of health. (Kirksville College of Osteopathic Medicine, 2007)

> *„Wir wissen, dass wir mit den einzelnen Teilen beginnen müssen, wenn wir jemals das Ganze erkennen wollen.“ [We know that we have to start with singular parts if we want to be able to see the whole.]“*
>
> (Still, 2003 S. 307)

Osteopaths treat humans as a entirety, even though they are only working with individual body parts, their attention is always turned to the human being as an entitiy. (AOA, 2007)

An experienced osteopath is able to integrate different techniques and concepts in his osteopathic treatment, by following the tissue in his treatment. In that respect, there is no structural osteopathy, no craniosacral osteopathy and no visceral osteopathy, but only an application of the osteopathic principles on the specific part of the human being. (Hermanns, 2007)

> *„Es ist gerade diese umfassende, ganzheitliche Sichtweise, die dem Einheitsprinzip der Osteopathie zugrunde liegt – sie beschäftigt sich mit allen menschlichen Systemen: visceral, parietal, craniosacral, vasculär, lymphatisch, venös, nerval, psychisch, emotional.“*
>
> *[“The principle of unity of osteopathy is based on this extensive, holistic point of view – it deals with all human systems: visceral, parietal, craniosacral, vascular, lymphatic, venous, nerval, psychological, emotional.”]*
>
> (Hermanns, 2007 S. 13)

Just like osteopathy aspires to see the human being as an entity, be he healthy or sick, osteopathy itself has to be seen as an entirety and cannot be separated in to individual parts, even though it applies its manual techniques on different parts of the human body.
The application of a specific technique without the background of the holistic philosophy of osteopathy and its principles cannot be called an osteopathic treatment.

2.5 The Training of Visceral Osteopathy at the WSO

In this chapter, firstly I would like to give an overview of the training of osteopaths at the WSO, then a detailled insight into the content of the training in the visceral field of osteopathy.

At the WSO, of a total of 1480 teaching units, 920 units deal exclusively with the teaching of osteopathic techniques. The field History, Philosophy, Principles amount only to a total number of 10 units. (WSO, 2007)

This shows that during the training of osteopaths, the osteopathic philospophy and its principles have to be transmitted together with the teaching of diverse techniques in the structural, cransiosacral and visceral field.
Only thus it is possible for the students to compose an osteopathic treatment out of the numerous techniques they learned later on.

2.5.1 The Training of an Osteopath according to the Curriculum of the WSO – Syllabus of the formation

The training of osteopaths at the WSO is organized in five modules: „Basic Medical Sciences", „History, Philosophy, Principles", „Osteopathic Diagnosis and Treatment", „Professional Skills" and „Osteopathic Technique", which are listed in the following table:

Basic Medical Sciences	
Biomechanics	110.0
Dental Medicine	10.0
Embryology	15.0
ENT	5.0
Gynaecology and Obstetrics	5.0
Neurology	5.0
Pediatrics	15.0
Radiology	15.0
Contact Hours:	**180.0**
History, Philosophy, Principles	
Philosophy/Principles	10.0
Contact Hours:	**10.0**

(WSO, 2007)

Osteopathic Diagnosis and Treatment	
Clinical Observation and reflexion	20.0
Clinical Osteopathy	115.0
Supervised Treatments	10.5
Contact Hours:	**145.5**
Osteopathic Technique	
Cranial	265.0
GOT	30.0
Osteopathic Concepts in Treatment	150.0
Soft Tissue Techniques	125.0
Structural Technique	285.0
Visceral Technique	175.0
Contact Hours:	**1030.0**
Professional Skills	
Ethics	5.0
Legal and international situation	4.5
Psycho-emotional	35.0
Research Methodology	45.0
Contact Hours:	**89.5**
Total Contact Hours:	**1455.0**

(WSO, 2007 cont.)

In the field of osteopathic technique, the cranial techniques occupy 265 units. The techniques dealing with the structural or parietal field amount to 450 units and are divided in 30 units “General Osteopathic Treatment”, 125 units “Soft Tissue Techniques”, 295 units “Structural Techniques”.
The “Visceral Techniques” amounts to 205 units, which results in a total number of 920 units in the section of “Osteopathic Techniques”. (WSO, 2007)

2.5.2 Overview of the Osteopathic Training in Visceral Technique at the WSO

The content of the module „Visceral Technique“ is listed in the following table:

Visceral Technique		
Module Title	**Year/Sem.**	**Contact Hours**
Introduction, Diaphragm	2 / 3	10.0
Lung, Mediastinum, Thoracic Inlet	4 / 1	15.0

Esophagus, Stomach	4 / 2	20.0
Peritoneum, Liver, Gallbladder	4 / 3	15.0
Spleen, Pancreas, Duodenum	4 / 4	20.0
Small and Large Intestines, Radix Mesenterii, Revision Upper Abdomen	5 / 1	15.0
Kidney, Bladder	5 / 3	15.0
Perineum, Prostate, Uterus	5 / 4	15.0
Specific Techniques 1	5 / 5	15.0
Revision Course	5 / 70	15.0
Dynamics gastro-intestinale	6 / P	20.0
Total Contact Hours:		**175.0**

(WSO, 2007)

Within the different modules, students receive theoretical lessons in anatomy, physiology and embryology, as well as in clinical and pathological subjects concerning the visceral field.

During practical lessons, the osteopathic palpation serving for diagnostic evaluation, diagnosis and treatment for each organ and organic sytems is transmitted, as well as the clinical aspects and counterindication for certain techniques of treatment.

3 Methodology of the Survey

„Empirische Sozialforschung ist ein problemlösendes Handeln. Es setzt gleichermaßen die genaue Formulierung eines Problems wie die Kenntnis einer angemessenen Methode zu seiner Lösung voraus." ["Emipric social studies is a form of action which aims at solving problems. It requires the exact formulation of a problem as well as the knowledge of an appropriate method for its solution."]

(Friedrichs, 1985 S. 13)

A method is a specific system of rules that organises the activity during the acquisition of new insights and the practical reorganistation of reality. The method marks the process aiming at a certain goal, it is the system of rules that determines this process. (Friedrichs, 1985)

3.1 Choice of Method

While chosing the method for my investigation, I pondered the possibility of a qualitative investigation or a quantitative one.
Qualitative, open questioning takes up more time, therefore fewer people can be questioned. (Bortz/Döring, 1995)

3.1.1 Quantitative Social Research - The Method of a Questionnaire

I chose the quantitative method using a questionnaire, because I consider it important to question a large number of osteopaths for my work about the subject of the application of visceral techniques in their osteopathic practising.

Because the previous knowledge of the questioned osteopaths on the subject of visceral techniques is quite extensive, I predominatly used the form of closed questions (Friedrichs, 1985, Kaase, 1999) in my questionnaire. The use of closed questions makes the evaluation of the questionnaire a lot easier. (Bortz/Döring, 1995)
Because there is no published questionnaire about the application of specific osteopathic techniques, I had to work out my own questionnaire.

3.1.2 The Questionnaire

3.1.2.1 The Development of the Question Catalogue

This chapter describes the procedure and important considerations for working out my questionnaire.
As a preliminary investigation for the elaboration of my questionnaire, I used four clinical studies, carried out by osteopaths at the WSO (Anderl, 2007/ Karl – Schindler, 2001 / Seifner, 2007 / Stockinger, 2001), to investigate which specific visceral techniques are listed in the documentation of a certain osteopathic treatment.

The following osteopathic textbooks dealing with visceral osteopathy are the foundation for the elaboration of my questionnaire:
„Visceral Manipulation“ by J. P. Barral und P.Mercier (1988), „Viscerale Osteopathie“ by M. De Coster und A. Pollaris (1997), „Osteopathische Techniken im Visceralen“ von L. Fieuw und M. Ott (2005), „Leitfaden Viscerale Osteopathie“ by T. Liem, T. K. Dobler and M. Puylaert (2005), „Die Inneren Organe aus der Sicht der Osteopathie“ by C. Stone (1996), „Lehrbuch der visceralen Osteopathie“ by J. Helsmoortel (2002), „Treating Visceral Dysfunktion“ by G. Finet and Ch. Williame (2000) and „Visceralosteopathie - Grundlagen und Technik“ by E. Hebgen (2005).
These textbooks give basic information on anatomy and physiology of the inner organs, the basic terms of visceral osteopathy and the technical possibilities of the osteopathic diagnosis and the treatment of single organs and entire organic systems.

The techniques described in literature concerning osteopathic diagnosis and treatment of individual organs and organic systems differ in many ways with regard to the application and execution.
Therefore I worked out fundamental principles of the diagnosis and treatment from the cited literature shared by different authors and based my questionnaire on them.

3.1.2.1.1 Mobility and Motility

An important principle of osteopathy is: Life is movement (Still, 1908/ The Cranial Academy, 2007) In visceral osteopathy this principle is expressed by two fundamental terms, defining these movements of the organs. These terms are mobility and motility.

„Physiologic motion can be divided into two components: (1) visceral mobility (movement of the viscera in responce to voluntary movement, or to the movement of the diaphragm in respiration); and (2) visceral motility (inherent motion of the viscera themselves)."

(Barral / Mercier, 1988 S.5)

However, this definition of mobility and motility is not universally recognized in osteopathic literature. Another term, dealing with the description of the movement of the inner organs is the term of motricity.
Fieuw and Ott (2005) define motricity as *„... eine Eigenbewegung der Organe, die vor allem bei Hohlorganen deutlich ist und durch neuro-, para- und endokrine Mittler direkt oder indirekt die glatten Muskelzellen der Organe zur Kontraktion veranlasst, die diese in eine Bewegung (z.B. die Peristaltik) umsetzen."* [*„... an inherent movement of the organs, especially evident with hollow organs, which – by neuro-, para- or endocrine median – directly or indirectly makes the smooth muscle cells of the organs contract, that they will convert into movement (e.g. peristaltic)."]* (Fieuw/ Ott 2005, S. 5)
Contrary, according to the definition of motricity by Helsmoortel el a. (2002) and Hebgen (2005) these movements are transmitted to the inner organs as passive movements by the locomotory activity of the musculoskeletal system.
Because literature does not define motricity unambigioulsy, I will neglect this term in the further course of my investigation.

Helsmoortel et al. (2002) uses the term of mobility exclusively for the passive movement of the organs, transmitted by the thoracic diaphragm.

All other authors of the cited textbooks follow Barral's and Mercier's (1998) definition of mobility and therefore I will go along with this definition in the further use of the term.

Barral and Mercier (1998) split the visceral movements into four categories, depending on the system which controls these movements. They distinguish four systems: the somatic nervous system, the autonomic nervous system, the craniosacral system and the visceral motility.
Via the movements of the structures of the active musculoskelatal system, the voluntary nervous system influences the inner organs in their mobility passively – on one hand with regard to the tissue structure, on the other hand with regard to their position towards each other.

The movement of the organs, controlled directly by the autonomic nervous system or indirectly by the hormonal system, concern the thoracic diaphragm and the respiration, the heart, the circulation and the peristaltic movements of the hollow organs of the digestive system.

According to Barral and Mercier (1998), the craniosacral system influences not only the cranial structures, but the whole body, including the organs. In the mutual influence of the cranial and visceral system, a mechanic component via the fascial connection (Paoletti, 2002) and the cerebrospinal fluid plays a major role. (Helsmoortel et al. 2002)

All movements of the organs are influenced by exterior factors, except those movements decribed by the term "visceral motility".
The visceral motility is an inherent, intrinsic feature of the tissue of the organ in question, which moves the organ, independently from exterior influences in a very small but palpable amplitude and frequency. These movements were assigned corresponding axis of motion and two directions of movement, which are called "exspir" and "inspir", as an analogy to the diaphragmatic movements of inhalation and exhalation. (Barral, Mercier 1998)

3.1.2.1.2 Auscultation and Percussion

The use of auscultation and percussion dates back to the early phase of the clinical medicine at the turn of the 18th to the 19th century. It was the expression of the physicalization of the methods of clincal examination and were established successfully in the clinical schools of the early 19th century in Paris, Vienna, London, Dublin and Edinburgh. René Théophile-Hyacinthe Laennec (1781 – 1826) is considered as the pioneer of auscultation, the Austrian Leopold Auenbrugger (1722 – 1809) of percussion. (Koehler, et al 2004/ Holldack/ Gahl 2005)

The term auscultation, from lat. auscultare – (attentively) listening, hearing, describes in medicine the auscultation of an organ with a stethoscope. The auscultation of the lungs distinguishes between normal vesicular sounds of respiration and pathological forms like the bronchial and amphoric respiration and respiratory sidetones. The auscultation of the heart distinguishes between heart sounds and heart murmur, where the quality and volume of the sounds can indicate damages of the heart valves or the cardiac septum. Attrition murmurs indicate an inflammation of the pericardium. The heart sounds of an unborn child are observed especially in the later stages of pregnancy to early discover danger for the

child in the case of complications. The ausculation of the belly judges the activity of the digestive system in order to distinguish a paralytic from a spastic ileus, or rather from an intestinal obstruction of different cause. Blood vessels are auscultated as well, in case of a stenosis of the blood vessel, audible sounds of current can be heard. (Holldack/ Gahl 2005)

Percussion means the pounding of the surface of the body for diagnostic reasons. Doing that, the tissue under the surface of the body is brought into oscillation, the resulting qualities of sound indicate the size, position, function, air content, constitution and density of the tissue. (Helsmoortel, 2002/ Liem et al 2005)

This way, the size and position of the organs or the air content of the tissue can be assessed. The most frequently used method is the finger-finger-method, which requires no auxiliary means: Pounding with one finger on another finger, the latter being positioned on the surface of the body.
During percussion, different qualities of sound serve for diagnostic reasons.
These different qualities of sound are called:

a) sonorous sound of pounding: an audibly hollow sound during percussion of organs containing air or gas like the healthy lung.
b) Hypersonorous or tympanic sound of pounding: a hollow, almost musical sound, similar to the one of a kettledrum, is louder and deeper than a sonorous sound of pounding and is audible on the left side during the percussion of the gastric fundus (Traube's section), of the caecum, colon ascendens and colon transversum. In the case of emphysema, asthma, pneumonia thorax and similar diseases of the lung indicating an excessive content of air, sometimes it is not possible to distinguish between the tympanism of the stomach and the diseased lung.
c) Dull or muffled sound of pounding : an audibly dull sound during the percussion of organs containing little air or organs filled with materia or liquids like the liver, small intestine, colon transversum sinistra and colon descendens. Dull sound of pounding is a quiet and short sound, comparable to pounding a thigh (dull percussion note) and can indicate a reduced content of air or an accumulation of liquid, a pleural effusion or pneumonia. This sound can be caused by ascites as well. (De Coster/Pollaris, 1997 / Helsmoortel, 2002 / Liem, et al. 2005 / Fieuw/Ott, 2005 / Koehler, et al. 2004)

3.1.2.1.3 Sotto Hall Test

Carrying out and applying Sotto-Hall-Tests was given special attention at the WSO by different lecturers.
The Sotto-Hall Test uses the pulse qualities of the ateria radialis. Carrying out the test is described as follows:
The patient sits, the therapist stands behind the patient and palpates the pulse of the arteria radialis and checks its quality. Then the therapist guides the arm of the patient where he palpates the pulse, at the same time passively in 90° abduction and in external rotation on the final grade at the shoulder joint while flexing the ellbow at 90°. Next, the therapist guides the patient's head in a rotation and lateral flection in the opposite direction of the abducted arm. If the quality of the palpated pulse on the ateria radialis declines, the test ist evaluated positively. (Barral/Mercier, 1988 / Rommeveaux, 1998)

If the therapist carries out an inhibition of an organ that can cause a restriction of the arteria subclavia and the quality of the palpated pulse of the arteria radialis improves, it indicates a possible dysfunction of the organ in question. (Hebgen, 2005 / Rommeveaux, 1998)
This test is one of the general, introductory tests for the diagnosis of visceral problems. (Hebgen, 2005 / Ligner, undated)

3.1.2.1.4 Inhibition

Inhibition means the application of constant pressure to a soft tissue in order to reduce the reflex activity and thus reach a relaxation. (Liem, et al. 2005)

While examining the motility of an organ, it is possible to test whether the specific dysfunction was caused primarily or secundarily. While examining the motility of one organ, the therapist inhibits another, either a neighbouring or otherwise related one, by applying careful pressure to it. If the motility of the examined organ improves, the dysfunction is secundarily influenced by the inhibited organ. (Barral/Mercier, 1988)

3.1.2.1.5 Induction

The term induction describes the careful manual support of the intrinsic or inherent tissue motility, which aims at recovering the normal amplitude and frequency of movement. (Liem et al, 2005)
A condition for applying this technique is the exact knowledge of the amplitude and frequency of movement of each organ and the capacity to exactly palpate these movements. This way of palpation requires listening, to *"Listen through the hands, not with the hands."* (Becker, 1997, S. 148). During the palpation of motility, the hand passively follows the movements of the organ; during the induction, the direction of movement, in which the organ moves more easily, is supported lightly until a normal motility of the organ is recovered. (Barral/Mercier, 1988/ Hebgen, 2005)

3.1.2.1.6 Direct and Indirect Techniques

The terms „direct technique" and „indirect technique" describe old osteopathic techniques (see chapter 2.2), which were used in all three fields of osteopathy, in structural, craniosacral and visceral osteopathy.

In visceral osteopathy, „direct technique" refers on the mobility of organs; the organ in question is activated mobilized in the opposite direction of the restriction in a careful rhythm. A second form of direct technique is the so-called "recoil technique": an organ is put under pressure and then the applied pressure is released suddenly with a jerk. (Barral/Mercier, 1988 / Liem, et al. 2005)

The term „indirect technique" refers to the mobility and motility of the organs. The organ is moved in the direction of the lesion until the inherent strength of the organism causes a correction of the organ.
Barral (1988) calls the following method of treatment an "indirect technique" as well: where a organ is not accessible for palpation, the limbs are used as long levers in order to mobilize the organ in question.
Both options of "direct technique" and "indirect technique" can be combined during the treatment.

3.1.2.1.7 Point of Balanced Tension

The term "point of balanced tension" comes originally from the concept of the functional techniques. This concept speaks about movement being a function in itself and each restricted movement implying a restricted function. It assumes that each structure is based on a hidden functional pattern and each funktion is based on a familiar, not hidden structure.

This structure is palpable and this palpation makes function palpable too. Important for the osteopath in this context is *„... it is not so much that structure changes and alters its size, shape and configuration - that is only proof that it is functioning - as it is how it changes; i.e., rapidly, slowly, with an increasing gradient, with a decreasing gradient, or with a constant gradient or no gradient at all. How it changes, and especially how it changes in response to specific annotatable demands, gives real information about the function it is currently engaged in."* (Bowles,1955 S.180)

Liem et al (2005) talks about a *"point of balanced entodermal tension"*, a *"point of balanced fascial tension"*, a *"point of balanced dynamic tension"* and a *"point of balanced fluid tension"* and the integration of this tension in a visceral osteopathic treatment.

This technique is based on the hypothesis that visceral dysfunctions often become evident as complex dysfunctions and patterns of dysfunctions and it can be used for every tissue and organ.

Summary:

The terms mobility and motility play a major role in visceral osteopathy, both in diagnosis and the treatment of visceral structures.

The techniques of percussion and auscultation are two fundamental methods for the identification of the position of the organs and the examination of their function.

The Sotto-Hall Test is one of the general, introductory tests for the diagnosis of visceral problems.

The techniques of inhibition and induction in visceral osteopathy were described by Barral and Mercier and were quoted many times in osteopathic literature.

"Direct technique" and "indirect technique" are the most frequently described techniques for the treatment of visceral problems.

The technique for reaching the "point of balanced tension" originates in functional techniques and is used in visceral osteopathy as well.

Additionally to the questions concerning the application of specific visceral techniques, I considered it important to ask two fundamental questions:

- Are visceral techniques used in osteopathic practice?
- Is there still a division of an osteopathic treatment into structural, cranial and visceral techniques for osteopaths while their practic work with the patients?

3.1.2.2 The Structure of the Questionnaire

The questionnaire consists of five sections, the first one dealing with biographic data of the osteopaths, the second one refers to details about the treated patients, the third, fourth and fifth section concerns the anamnesis, the diagnosis and the osteopathic treatment.
The first part contains personal questions about the questioned osteopaths, concerning their age, sex, the basic occupation, the year they graduated from their osteopathic training and their field of activity.
The year they passed their last exam conducted by a committee serves as year they graduated from their osteopathic training.

The second part deals with the reason patients give why they seeked osteopathic treatment.

The third part of the questionnaire is about anamnesis. I considered it important to work out whether osteopaths gain the anamnesis using standardized medical history sheets or self administered medical history sheets or adapting to the situation individually or whether they ask generally about illnesses in the visceral field or examine organs and organic systems specifically for possible illnesses.

The fourth section of my questionnaire asks questions on the topic of gaining medical evidence. Firstly the basic questions whether osteopaths use visceral techniques to gain evidence only with patients who have already complaints in their anamnesis in relation with the visceral system or also with those who do not cite visceral problems in their anamnesis.
Further, questions are asked about special examination techniques, such as the Sotto-Hall-Test (Baral, 1988), percussion and auscultation (Koehler et al, 2004), the inhibition test (Barral, 1988) and tests for judging visceral mobility and motility. (Barral, 1988; Stone, 1996; De Coster,/Pollaris, 1997; Helsmoortel, 2002; Fieuw, L./ Ott, M. 2005; Liem et.al.2005)

The last section of my questionnaire concerns the use of visceral techniques in osteopathic treatment.
As the integration of different techniques in osteopathic treatments is time and again in the center of discussion, I considered it important to filter out those osteopaths who can no longer identify with the terms of the techniques of the structural, cranial and visceral field.
The following questions concerning the techniques of treatment from the visceral field are directed at those osteopaths who feel familiar with the terms of the techniques from the structural, cranial and visceral field.
After the general questions, whether they use visceral techniques in their osteopathic offices, the questions are asked about the use of the technique of induction in order to regain the physiological motility of the organs (Barral, 1988), about the use of direct and indirect techniques to regain visceral mobility (Barral, 1988; Stone, 1996; De Coster/ Pollaris, 1997; Helsmoortel, 2002; Fieuw, L./ Ott, M. 2005; Liem et al.2005) and about the use of "point of balanced tension" techniques in the field of the organs (Liem, 2006).

The entire questionnaire including the cover letter and the explication for the individual questions is to be found in the appendix of this thesis.

3.2 Procedure of the Survey

After working out the last version of the questionnaire, I had to set up an appropriate period of time in which the questioned persons were supposed to answer. I thought a short period of time of 18 days was sensible, because on one hand it offered sufficient time to answer 25 questions carefully and on the other hand it was short enough not to make someone postpone the answering and then forget about it entirely.

My survey is directed at all people who work in Austria and finished an osteopathic training with the last exam conducted by a committee, that is recognized by the statutes of the ÖGO[8].

8 Österreichische Gesellschaft für Osteopathie http://www.oego.org/

The addresses I needed for my survey are from the list of graduates of the WSO and the DOK[9] and the list of addresses of the „Salzburger Osteopathenstammtisch[10]"/ Osteopathic Circle of Salzburg.

The survey was sent out by post together with a cover letter, which explains the aim of my investigation as well as the period of time planned for the evaluation. The questioned persons were guaranteed anonymity (Kaase, 1999) and help and explainations were offered for specific questions and possible answers in order to eliminate uncertainties.

Also, the questionnaires sent out by post included an envelope with the return postage and the return address written on it.

The online questionnaire, e-mailed to the people I wanted to question, also included a cover letter, which pointed out the possibility of recieving the questionnaire by post, if desired. The online questionnaire also guaranteed the anonymity of the collected data and help for specific questions was added directly online.

At the time of my investigation, 48 osteopaths were working in the federal state of Salzburg, 46 of them are physiotherapists in their basic occupation, two trained as doctors.
13 colleagues finished their osteopathic training at the DOK (Deutsches Osteopathie Kollege/ German Osteopathic College), the others studied at the WSO (Wiener Schule für Osteopathie/ Viennese School of Osteopathy).

The online questionnaire was e-mailed via the address file of the WSO to 266 osteopaths, whose basic occupation I do not know. In this context I would like to point out to the investigation of Krönke (2003) which showed that 70% of all osteopaths working in Austria are physiotherapists in their basic occupation, 20% doctors and the rest is distributed to other professional groups.

9 DOK, Deutsches Osteopathie Kolleg is the German sister school of the Canadian College of Osteopathy in Toronto and College d´Ètudes Osteopathiques in Montreal. Osteopathic training is presented part time per 6 years.
10 Salzburger Osteopathenstammtisch: periodical meeting of osteopaths in Salzburg for exchange of professional interrests

3.3 Data Collection

Data were collected by two methods.

- postal

In Salzburg, 48 questionnaires were sent directly to the individual osteopaths by postal service. For increasing the response rate, the return postage was borne by me.

- via internet

The osteopaths in the other federal states of Austria were contacted via 266 e-mails by the Vienna School of Osteopathy and asked to take part in the survey. They could fill in their answers in a specially administered website, linked in the email.

3.4 Data Evaluation

Data were collected in a spreadsheet (Microsoft® Excel 2000).
After a plausibility check some values were changed. The individual changes are listed below.

Changes of data

One Osteopath (ID: 92) explicitly used the answer "always" in the questions 9 and 11 and 12. These answers were changed to "frequently".
One osteopath (ID:82) did not clearly declare, whether she used indirect techniques often or rarely. The value was changed to "rarely".
Several osteopaths stated to treat any patient with visceral methods. Therefore a new answer ("always") was introduced.
Similarly, for osteopaths who stated to work as free lancers and as employees, the answer "both" was introduced.
Only two therapists had another profession than physiotherapist or medical doctor (ID: 27 and 113). Since it is does not make sense to evaluate a group of two, the values were set "missing" and not considered in the classification of osteopathic educational institutes.
Osteopaths trained at another school except the WSO and DOK, were aggregated in the value "other". The according institutes are listed in Table 1.

Institute	n	ID
COE	1	3
College Sutherland	1	27
IAO	3	6, 20, 64
SKOM	1	26
Upledger Institute	1	114 (excluded)

Table 1: Therapists with an osteopathic education at other institutions than the WSO and DOK.

One questionnaire (ID: 114) was excluded, because the Upledger Institute is not approved by the ÖGO.

Standardization of primary reasons, why patients seek osteopathic advice

If the sums of the primary reasons for seeking osteopathic advice (structural, visceral, neurological and other) did not result in 100%, these were standardized by division of the individual percentages by the real sum and multiplication by 100%.

Data classifications

The osteopaths were classified into four groups by means of the 25%-, 50%- and 75%- percentiles of age. Classification by patient characteristics was done the same way. The latter was done by the percentage of patients showing up due to visceral disorders.

Additionally, data were classified by educational institutions. Since group sizes are low for osteopaths trained at various other institutions than WSO or DOK, these therapists were characterized by the value "other", as described above.

For data evaluation, the answers "self administered questionnaire" and "standardized questionnaire" were agglomerated in the value "questionnaire".

Data evaluation

Analysis of variance (ANOVA, one-way, level of significance $\alpha=0.05$) was performed in advance of further evaluations. For this reason, nominal frequency values had to be transformed into ordinal scale. This transformation was done by the following substitutions:

Frequently	4
Often	3
Rarely	2
Never	1

If suggestive, comparisons of individual independent variables were done by means of χ^2-tests (two-tailed, level of significance α=0.05).
In order to explain, why sometimes χ^2-tests could not be performed, some basic principles of this method have to be understood.

Assuming that two groups of a sample are independent (null hypothesis), the relative frequencies within both groups singularily act like the relative frequencies in the total sample.
An example of a matrix of observed frequencies looks as follows:

		Dependent variable: Frequency of a visceral test				
		frequently	often	rarely	never	Column sum
Independent variable: Sex	Male	A	b	c	d	CS1: a+b+c+d
	Female	E	f	g	h	CS2: e+f+g+h
	Row sum	RS1: a+e	RS2: b+f	RS3: c+g	RS4: d+h	n_{total}

Presuming this independence, the expected frequency for this test will be calculated as follows and will additionally be compared to the observed frequency (the deviations are given as χ^2):

Expected frequency = row sum/total × column sum

The matrix of the expected frequencies of the example above would be:

		Dependent variable: Frequency of a visceral test			
		frequently	Often	rarely	never
Independent variable: Sex	Male	$RS1/n_{total}\times CS1$	$RS2/n_{total}\times CS1$	$RS3/n_{total}\times CS1$	$RS4/n_{total}\times CS1$
	Female	$RS1/n_{total}\times CS2$	$RS2/n_{total}\times CS2$	$RS3/n_{total}\times CS3$	$RS3/n_{total}\times CS4$

The usage of the χ^2-tests is limited by the expected frequencies, which should not be less than 5 for at least 80% of all expected frequencies and not below 1.

Since this condition could not be fulfilled for most variables, cases were aggregated as follows and the χ^2-test was performed.

original value	aggregated value
Frequently Often	} above average (aa)
Rarely Never	} below average (ba)

Software used for the evaluation was SPSS® 12.0.0.

Visualization of the data

Since most of the data are nominal measures, data will be summarized in cross tabulations comprising the absolute and relative frequencies of the findings, grouped by the independent variables. In order to attain an easier flow of reading, missing values are not particularized (but can be easily calculated with the tabular data).

Modes, i.e. the answers given most frequently, are demarked blue. Additionally, the 95%-confidence intervals (95%-CI) of the frequencies are shown. Due to the low sample numbers in the individual groups, the latter are of secondary importance.

Finally, mean values and standard deviations of the frequencies, converted in the ordinal scale as described above, are summarized. The highest mean value is demarked blue.

If ANOVA results in significant values ($p<0.05$), F- and p- values are shown and additionally demarked blue, if p-values account for possible tendencies ($0.05 < p < 0.15$), turquoise.

4 Results

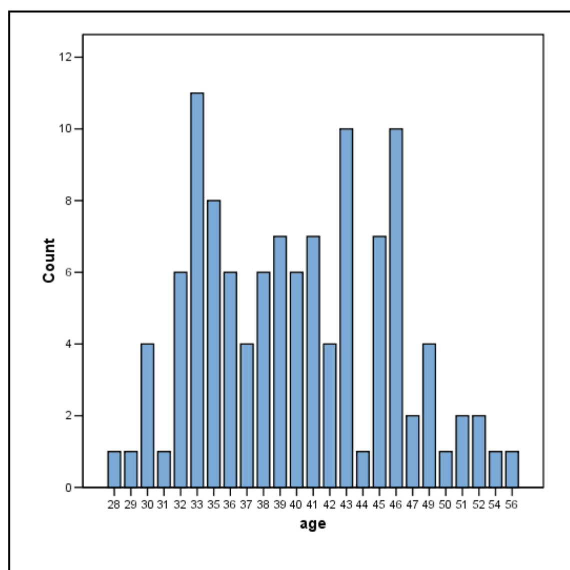
First of all, I will show the results of the total sample, without classifications. In the other chapters I will evaluate possible influences by the profession and age of the therapists, the number of patients with primary visceral dysfunctions, who seek advice of individual osteopaths, the experience of the osteopaths and the different educational institutions where they did their osteopathic training.

4.1 General Overview

In this chapter, I will summarize the results of this survey, beginning with a profile of the osteopaths taking part in the survey. In the three subsequent subchapters I will concentrate on data concerning anamnesis, visceral tests and treatment.

4.1.1 The Osteopaths

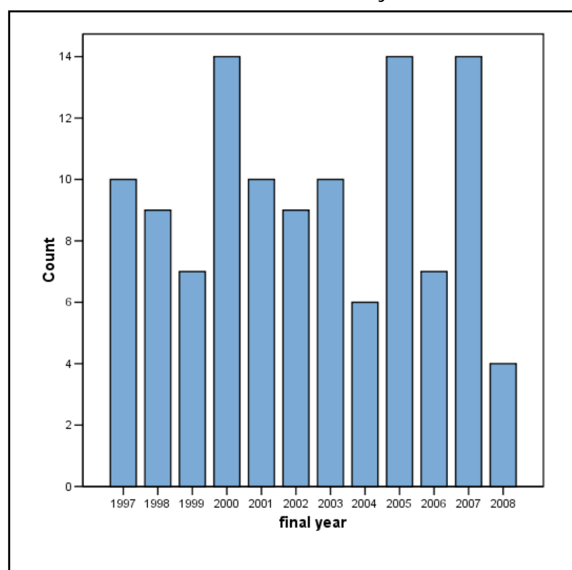
The total response rate was 114 of 314 osteopaths (36.3%), among them 52.6% women and 47.4% men. Response rate of the postal survey in Salzburg was 32 of 48 osteopaths (66.6%), response rate of the web-survey 82 of 266 osteopaths (30.8%).
Mean value and median value of the age of the osteopaths taking part in this survey are 40 years. The youngest was 28, the oldest 56 years old. The age distribution can be observed in Ill. 1.



Ill. 1: Age distribution of the osteopaths, who took part in the survey.

Ninety-five physiotherapists (84.8%) and 17 medical practitioners (15.2%) with osteopathic training took part in the survey. Most of them (n= 99, 86.8%) are working as free lancers, only seven are in an employed position (6.1%) and eight (7.0%) are both.

The distribution of the final years of their osteopathic training is shown in Ill. 2.

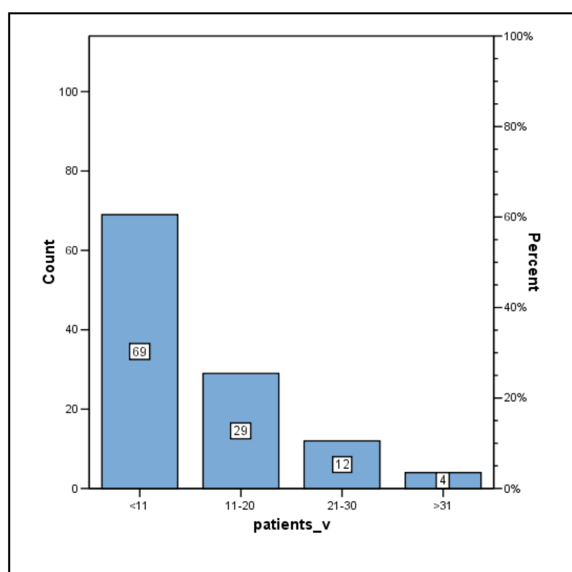


Ill. 2: Final years of osteopathic training.

The median of the final years of osteopathic training is 2002. That means, that (at least) 50% of the therapists taking part in this survey finished their education before 2003.

Only few of the patients seek osteopathic advice due to primary visceral dysfunctions. Most common are patients with structural impairments.

The percentage of patients with primary visceral dysfunctions, classified into four groups, is shown in Ill. 3.



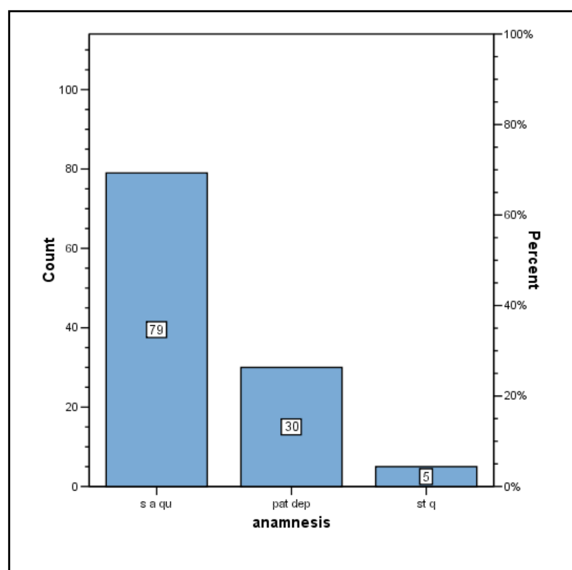
Ill. 3: Percentage of patients with primary visceral dysfunctions.

Sixty-nine (60.5%) of the therapists have less than ten percent of patients who seek osteopathic advice due to visceral dysfunctions, 29 (25.4%) between 11 and 20%, 12 (10.5%) between 21 and 30%, and only four (3.5%) more than 30%.

Only six (5.3%) of the osteopaths use techniques, which can not be categorised into visceral, cranial or structural techniques. 107 of the osteopaths do not use own techniques which cannot be assigned to visceral, cranial or structural techniques (94.7%, one missing answer). That means that most of the osteopaths use techniques as originally taught during osteopathic training.

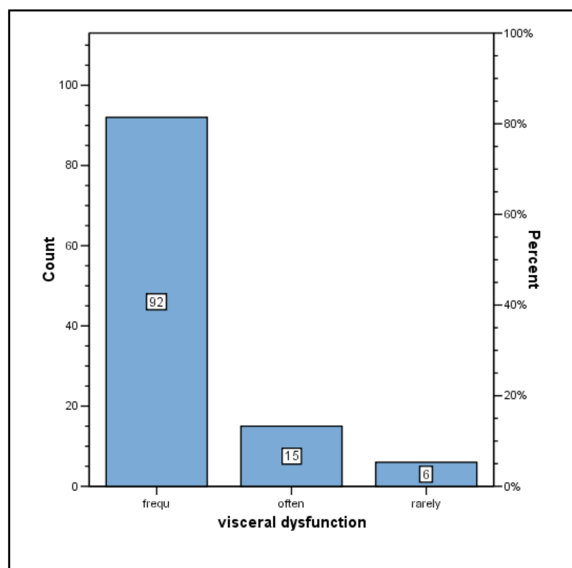
4.1.2 Visceral Anamnesis

As can be seen in Ill. 4, most therapists (n=79, 69.3%) use self administered medical history sheets ("s a qu"). Thirty osteopaths (26.3%) state, that they gather anamnesis depending on the patients ("pat dep") and only five (4.4%) use standardized questionnaires ("st q") for anamnesis.



Ill. 4: Most of the therapists use self administered questionnaires.

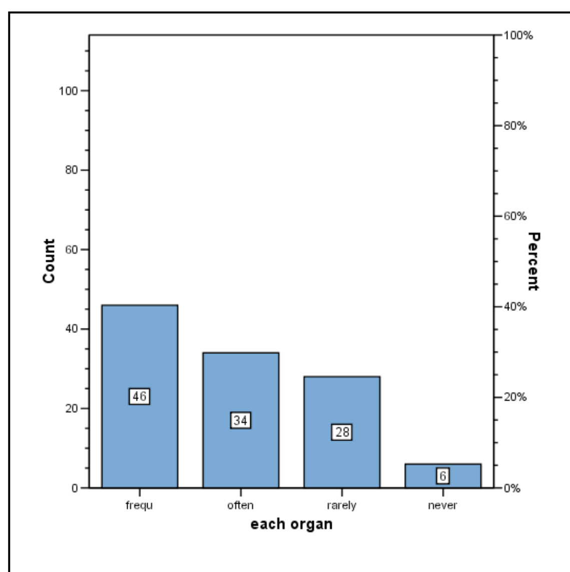
In Ill. 5, it is shown, how often osteopaths ask their patients about visceral dysfunctions.



Ill. 5: Most osteopaths ask their patients "frequently" about former visceral dysfunctions during anamnesis.

Ninety-two of the therapists (81.4%, 95%-CI: 73.3 - 87.5%) ask their patients frequently ("frequently") about former visceral dysfunctions, 15 (13.3%, 95%-CI: 8.2- 20.8%) often, only six seldom ("rarely") (5.3%, 95%-CI: 2.5 - 11.1%) and none of them does not ask at all.
According to ANOVA, there are no significant differences between the results of WEB and postal survey.

During anamnesis, some therapists do not gather anamnesis for each individual organ (system) at all, but again, most of the osteopaths do so frequently, as can be observed in Ill.6.

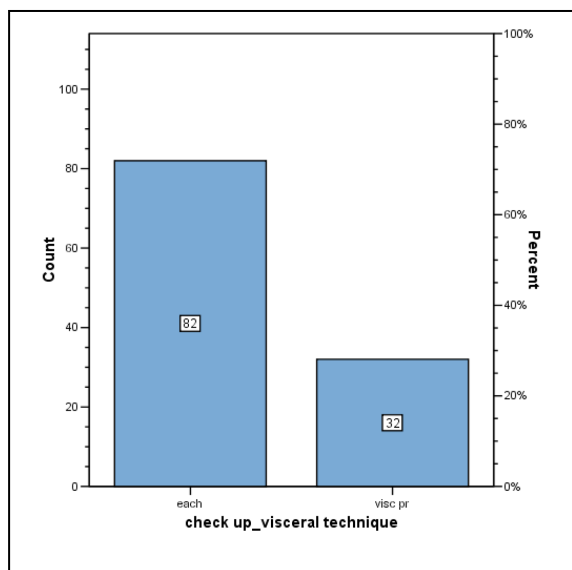


Ill.6: Percentage of therapists gathering anamnesis for each Single organ (organ system).

Fourty-six of the osteopaths (40.4%, 95%-CI: 31.8 - 49.5%) gather anamnesis for each single organ, 34 often (29.8%, 95%-CI: 22.2 - 38.8%), 28 rarely (24.6%, 95%-CI: 17.6 - 33.2%) and only six (5.3%, 95%-CI: 2.4 - 11.0 %) never. According to ANOVA, there are no significant differences between the results of WEB and postal survey.

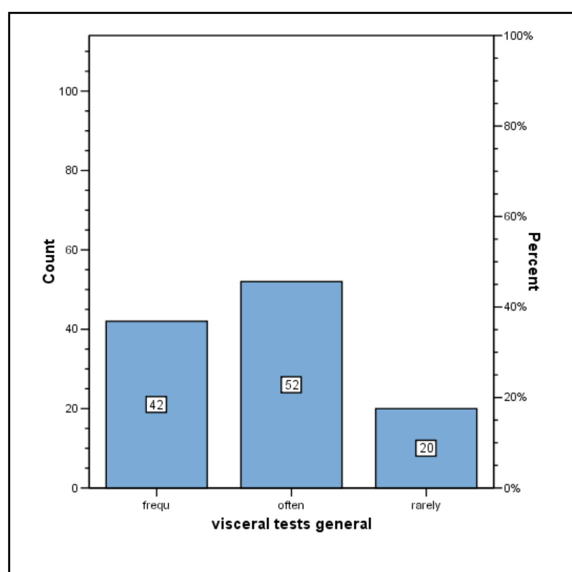
4.1.3 Visceral Techniques in Diagnostic Evaluation

Visceral techniques are not only used for the diagnostic evaluation of patients with known visceral dysfunctions (cf. Ill. 7). Eighty-two of the therapists (71.9%, 95%-CI: 63.1 - 79.4%) use visceral techniques for each patient and 32 (28.1%, 95%-CI: 20.6 - 36.9%) only for patients with specific visceral dysfunctions.



Ill. 7: In many cases, visceral techniques for diagnostic evaluation are not only used for patients with specific visceral problems.

The distribution of frequency of the usage of visceral tests is shown in Ill. 8.

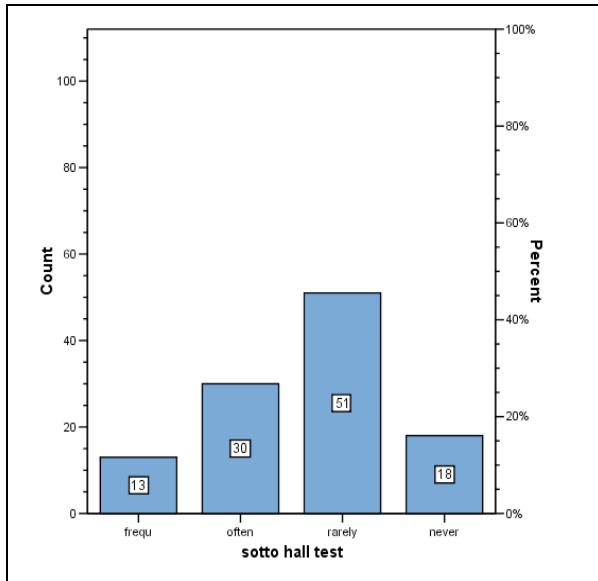


Ill. 8: Distribution of frequency of the usage of visceral tests during osteopathic diagnostic evaluation.

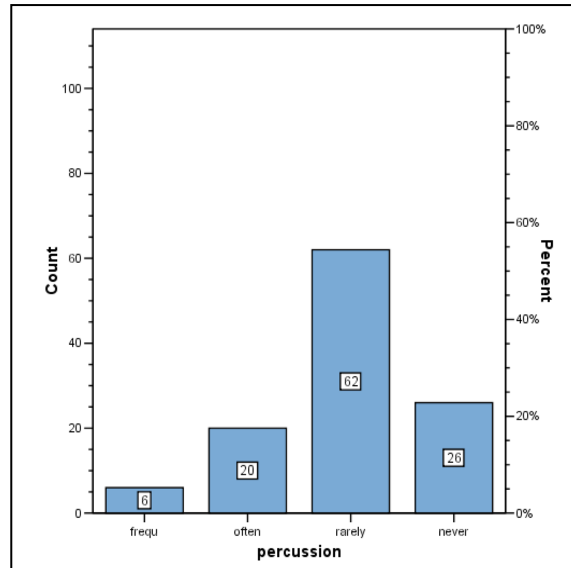
Most of the osteopaths state to use visceral tests "often" (n=52, 45.6%, 95%-CI: 36.8 - 54.8%) and 42 (36.8%, 95%-CI: 28.6 - 46.0%) "frequently". None of the therapists do not use visceral tests at all (95%-CI: 0.0 - 3.3%) and 20 (17.5%, 95%-CI: 11.7 - 25.6%) only "rarely". According to ANOVA, there are no significant differences between the results of WEB and postal survey.

4.1.3.1 Predominant Techniques used for Visceral Diagnosis

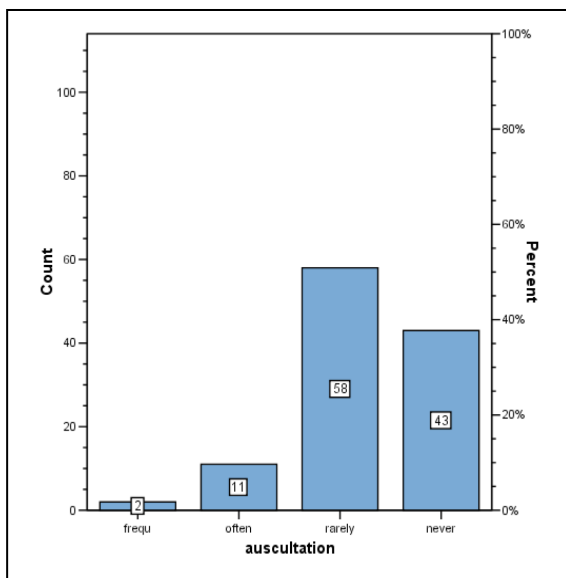
In the illustrations Ill. 9 - Ill. 14 frequency distributions of the application of six visceral tests are shown.



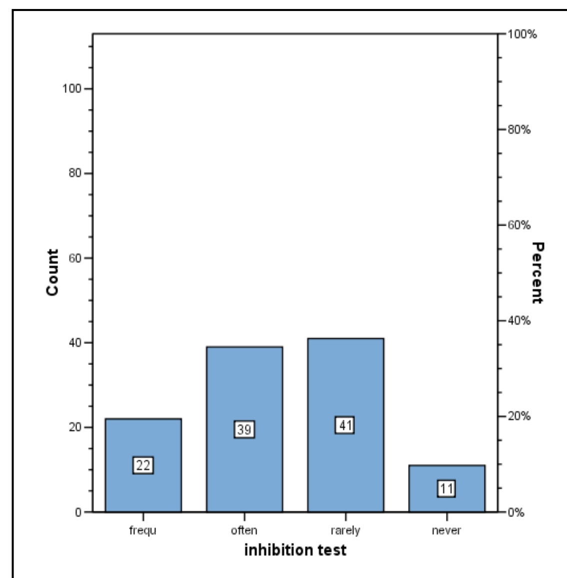
Ill. 9: Application of the "Sotto Hall test".



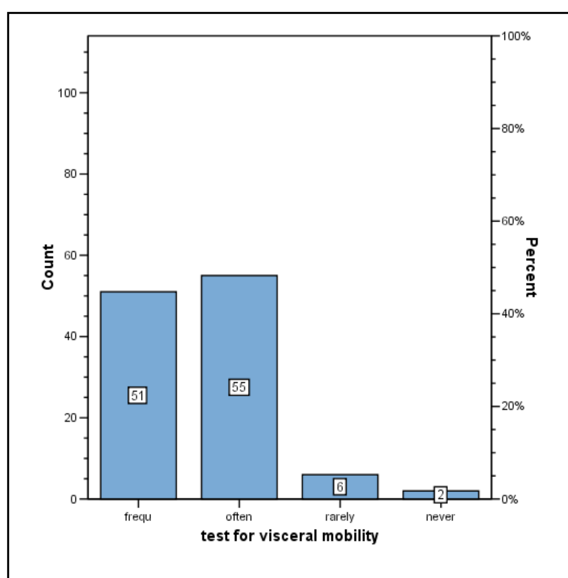
Ill. 10: Application of percussion.



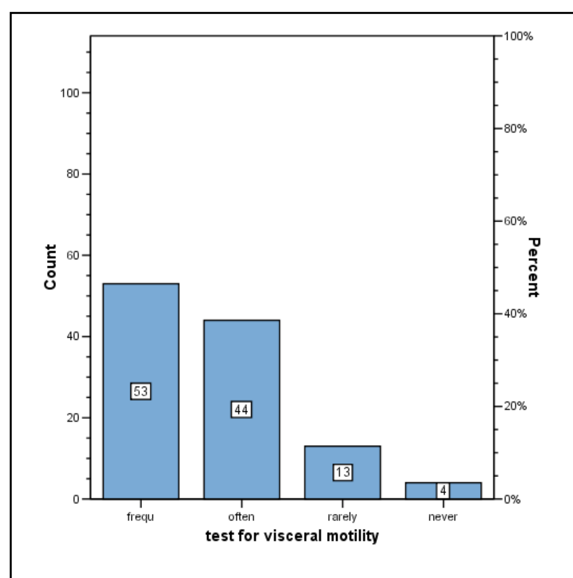
Ill. 11: Application of auscultation.



Ill. 12: Application of inhibition tests.



Ill. 13: Application of tests for visceral mobility.



Ill. 14: Application of tests for visceral motility.

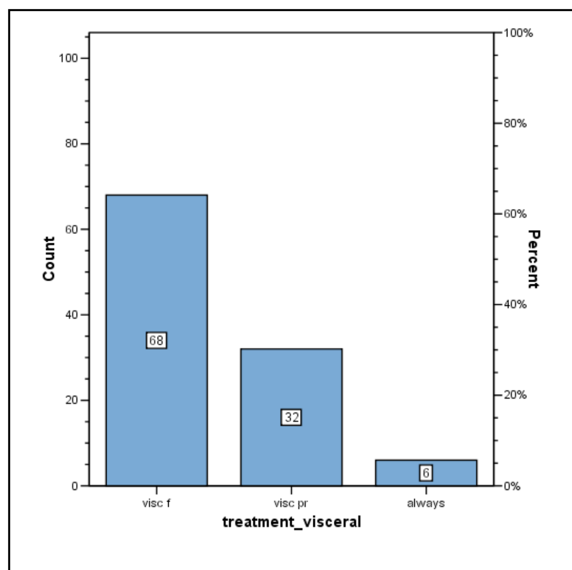
Tests for visceral mobility and motility are used most often, whereas Sotto Hall tests, percussion and auscultation are used by most therapists either seldom or not at all. Inhibition tests are used by approximately half of the osteopaths with above-average frequency, by the other half with below-average frequency.

4.1.4 Visceral Treatment Techniques

Six of the osteopaths (5.3%) taking part in this survey agree to the statement that they use only osteopathic techniques that cannot be assigned to structural, craniosacral or visceral techniques.

Visceral techniques for treatment (n=68, 64.2%) are used most often for patients with visceral findings ("visc f"). Thirty-two osteopaths (30.2%) use visceral treatment techniques only for patients with specific visceral problems ("visc pr") and six (5.6%) in both cases ("always") (cf. Ill. 15).

Probably more osteopaths treat patients with both, visceral findings and visceral problems. The additional category "always" was added, because several therapists explicitly used this answer in the postal survey (in the web-survey, it was not possible to answer this way).

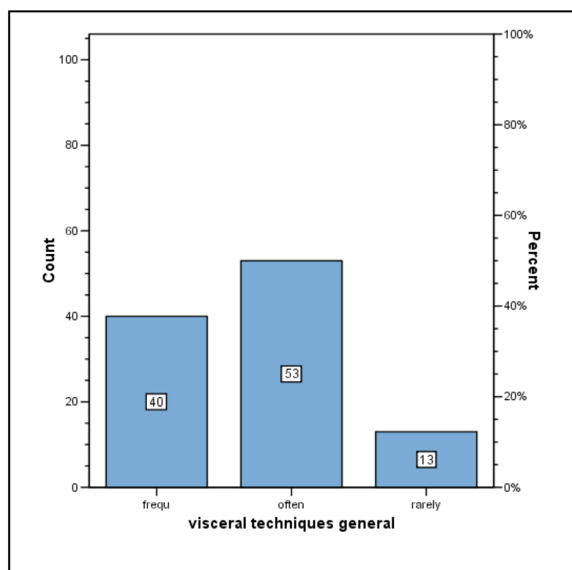


Ill. 15: Patients, treated with visceral techniques.

The frequency of usage of the application of visceral treatment techniques is summarized in Ill. 16.

All of the osteopaths state to use visceral techniques in treatment at least sometimes ("rarely").

Most of the therapists use them often (n=53, 50%). 40 (37.7%) use visceral techniques frequently and only 13 (12.3%) rarely.

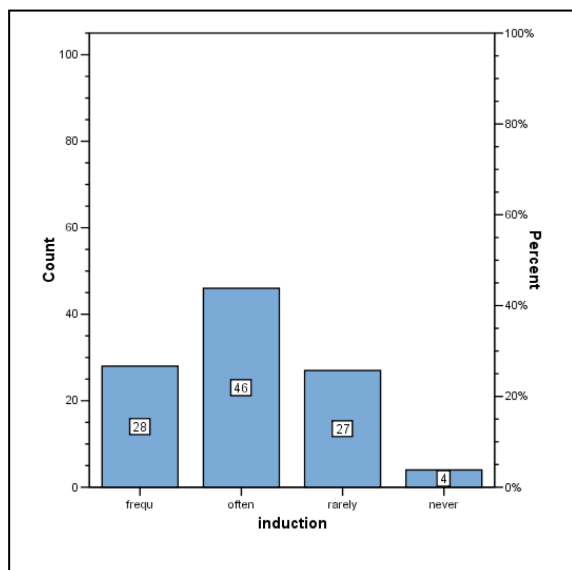


Ill. 16: Frequency of usage of visceral treatment techniques.

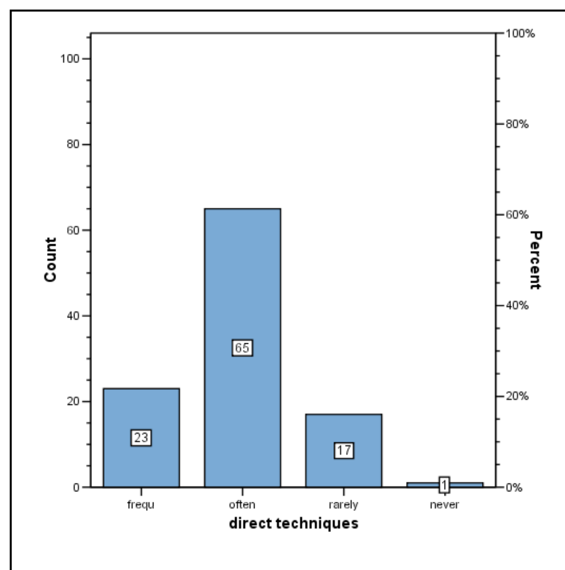
According to ANOVA, there are no significant differences between the results of WEB and postal survey.

4.1.4.1 Predominant Visceral Techniques used in Osteopathic Treatments

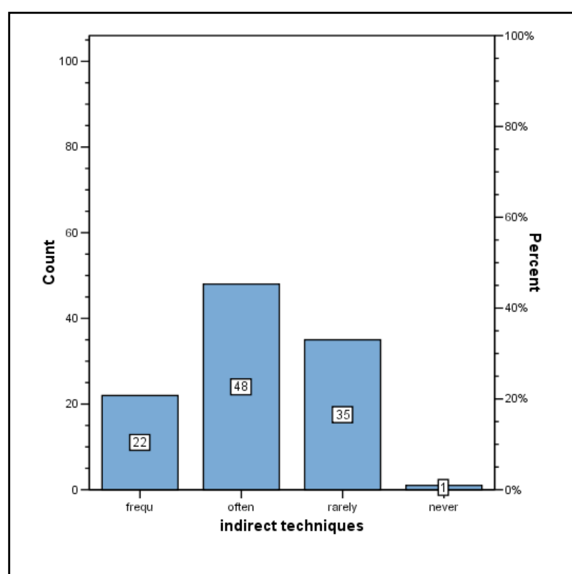
As could be seen in Ill. 16, most osteopaths use visceral techniques at least often during treatment. In Ill. 17- Ill. 20, the frequency of application of some treatment techniques will be shown.



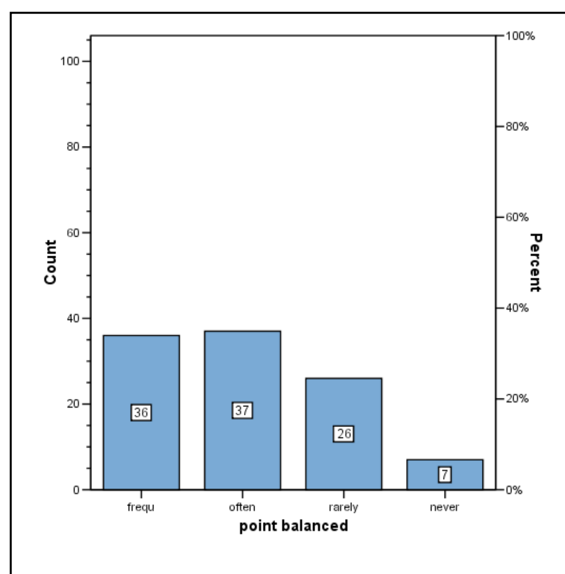
Ill. 17: Application of induction technique.



Ill. 18: Application of direct techniques.



Ill. 19: Application of indirect techniques.



Ill. 20: Application of point of balanced tension techniques.

Direct techniques for the mobilization of the organs are used most often, followed by induction techniques to reestablish visceral motility and "point of balanced tension"-techniques. Indirect techniques for the mobilization of the organs are used most rarely. Generally, the mode of all four variables is "often".

4.2 Differences between Medical Practitioners and Physiotherapists

In this chapter I will work out possible differences in the usage of visceral methods between medical practitioners and physiotherapists. Two osteopaths with prior professions other than physiotherapists or medical practitioners, are not considered.

4.2.1 Visceral Anamnesis

There are no significant differences between physiotherapists and medical practitioners in the way they perform their anamnesis. (a χ^2-test with the data of medical doctors and physiotherapists who use questionnaires or perform anamnesis dependent on the patient results in χ^2=1.133 and two-sided p=0.29). In both groups, most osteopaths use self administered questionnaires (cf. Table 2).

Anamnesis		MD		PT	
n	pat dep	6		22	
	s a qu	11		68	
	st q	0		5	
%	pat dep	35.3		23.2	
	s a qu	64.7		71.6	
	st q	0.0		5.3	
95% CI		l	u	l	u
	pat dep	17.3%	58.7%	15.8%	32.6%
	s a qu	41.3%	82.7%	61.8%	79.7%
	st q	0.0%	18.4%	2.3%	11.7%

Table 2: Most of the therapists use self administered questionnaires for diagnosis, regardless of their primary profession (pat dep… patient dependent, s a qu… self administered questionnaire, st q… standardised questionnaire).

The frequency of osteopaths asking their patients about former visceral dysfunctions is high in both groups (cf. Table 3, mode: "frequently"). Physiotherapists do so more often than medical practitioners. According to ANOVA a significant difference between the two groups can be observed.

visceral dysfunction		MD	PT
n	frequently	11	81
	often	4	9
	rarely	2	4
	never	-	-
%	frequently	64.7	86.2
	often	23.5	9.6
	rarely	11.8	4.3
	never	-	-

Table 3: Generally, most of the therapists ask their patients about former visceral dysfunctions "frequently", physiotherapists do so more often.

		l	u	l	u
95% CI	frequently	41.3%	82.7%	77.8%	91.7%
	often	9.6%	47.3%	5.1%	17.2%
	rarely	3.3%	34.3%	1.7%	10.4%
	never	0.0%	18.4%	0.0%	3.9%
Mean values:		3.5		3.8	
Standard deviation:		0.72		0.49	
ANOVA:		F= 4.368		p=0.039	

Table 3 (cont.): Generally, most of the therapists ask their patients about former visceral dysfunctions "frequently", physiotherapists do so more often.

Physiotherapists perform their anamnesis in a more structured way than medical practitioners. While most physiotherapists ask their patients frequently about former dysfunctions of each organ of the visceral system, most of the medical practitioners do so only rarely (cf. Table 4). No significant differences between the two groups can be observed in ANOVA (F= 2.06, p= 0.154). Nevertheless, after agglomeration of the cases "frequently" and "often" into "above-average" and "rarely" and "never" into "below-average", respectively, a χ^2-test results in χ^2=2.985 and two-sided p=0.08 and thus a slight significance.

each organ		MD		PT	
n	frequently	5		41	
	often	4		29	
	rarely	7		20	
	never	1		5	
%	frequently	29.4		43.2	
	often	23.5		30.5	
	rarely	41.2		21.1	
	never	5.9		5.3	
95% CI		l	u	l	u
	frequently	13.3%	53.1%	33.7%	53.2%
	often	9.6%	47.3%	22.2%	40.4%
	rarely	21.6%	64.0%	14.1%	30.3%
	never	1.0%	27.0%	2.3%	11.7%
Mean values:		2.76		3.12	
Standard deviations:		0.970		0.921	

Table 4: There are no significant differences in the two subgroups concerning the frequency of asking their patients about disorders of each organ(system) individually. Physiotherapists ask more often than medical practitioners.

4.2.2 Visceral Techniques in Diagnostic Evaluation

Visceral techniques are most commonly used for each patient in both groups and not only for patients with visceral problems (cf. Table 5). There are no statistical significant differences in the application of visceral techniques in diagnostic evaluation of physiotherapists and medical practitioners. (χ^2= 0.007, p= 0.934)

visceral techniques in diagnostic evaluation		MD		PT	
n	each	12		68	
	visc pr	5		27	
%	each	70.6		71.6	
	visc pr	29.4		28.4	
95% CI		l	U	L	u
	each	46.9%	86.7%	61.8%	79.7%
	visc pr	13.3%	53.1%	20.3%	38.2%

Table 5: In both groups, visceral techniques in the osteopathic diagnostic evaluation are used most often for each patient and not only for patients with visceral problems.

There are only slight differences in the frequency of usage of visceral tests during osteopathic diagnostic evaluation between the two groups (cf. Table 6). The mode in both groups is "often". Seemingly, physiotherapists apply them more often. Nevertheless, these differences are not statistically firm. (ANOVA: $F= 2.00$, $p= 0.224$).

visceral tests general		MD		PT	
n	frequently	4		38	
	often	9		41	
	rarely	4		16	
	never	-		-	
%	frequently	23.5		40.0	
	often	52.9		43.2	
	rarely	23.5		16.8	
	never	-		-	
95% CI		l	u	L	u
	frequently	9.6%	47.3%	30.7%	50.1%
	often	31.0%	73.8%	33.7%	53.2%
	rarely	9.6%	47.3%	10.6%	25.6%
	never	0.0%	18.4%	0.0%	3.9%
Mean values:		3.00		3.23	
Standard deviations:		0.707		0.721	

Table 6: All of the therapists use visceral tests during diagnostic evaluation. Most use them often or frequently. Medical practitioners use them slightly less.

4.2.3 Visceral Treatment Techniques

There are no significant differences in the application of visceral treatment techniques between the two groups. (a χ^2-test of the frequency distribution of the data of medical doctors and physiotherapists results in $\chi^2=1.58$ and $p= 0.45$). Most of the osteopaths rather use visceral techniques for patients with visceral findings than those with known visceral problems, only (cf. Table 7).

treatment_visceral		MD		PT	
n	always	1		5	
	visc f	8		58	
	visc pr	7		25	
%	always	6.3		5.7	
	visc f	50.0		65.9	
	visc pr	43.8		28.4	
95% CI		l	u	L	u
	visc pr	1.1%	28.3%	2.5%	12.6%
	always	28.0%	72.0%	55.5%	75.0%
	visc f	23.1%	66.8%	20.0%	38.6%

Table 7: Most of the therapists use visceral techniques, if visceral findings have been diagnosed.

Visceral techniques are used more often by physiotherapists than by medical practitioners (cf. Table 8). Nevertheless, in both groups most osteopaths use them "often" and differences are not statistically firm.

visceral techniques general		MD		PT	
n	frequently	4		36	
	often	10		41	
	rarely	2		11	
	never	-		-	
%	frequently	25.0		40.9	
	often	62.5		46.6	
	rarely	12.5		12.5	
	never	-		-	
95% CI		l	u	L	u
	frequently	10.2%	49.5%	31.2%	51.4%
	often	38.6%	81.5%	36.5%	56.9%
	rarely	3.5%	36.0%	7.1%	21.0%
	never	0.0%	19.4%	0.0%	4.2%
Mean values:		3.13		3.28	
Standard deviations:		0.619		0.677	

Table 8: Most of the therapists often use visceral techniques.

4.2.4 Summary

Anamnesis

The only significant difference which can be found between physiotherapists and medical practitioners is the frequency they are asking their patients about former dysfunctions of the visceral system. Physiotherapists gather this information more often than medical practitioners.

Additionally, there is a tendency, that physiotherapists perform their anamnesis in a more structured way than medical practitioners. While most physiotherapists gather an anamnesis of each organ (system) individually, most of the medical practitioners do so only rarely.

4.3 Dependencies on Therapists' Age

In this chapter I will work out possible influences of the therapist's age on the usage of visceral methods.

4.3.1 Visceral Anamnesis

After the agglomeration of "standardized questionnaire" and "self administered questionnaire" in the value "questionnaire", significant differences between the oldest therapists (>45 years) and the youngest (<36 years) as well as the osteopaths of the group "41-45" can be observed. Older therapists use self administered questionnaires for diagnosis less frequently than younger therapists (cf. Table 9). A χ^2-test between the groups "<36" and ">45" results in χ^2 =3.967 with p= 0.046. The according values for the groups "41-45" and ">45" are χ^2= 4.302 and p= 0.031. Tests between the other groups did not bring any significant outcomes.

anamnesis		<36		36-40		41-45		>45	
n	pat dep	6		8		5		10	
	s a qu	25		19		22		13	
	st q	1		2		2		0	
%	pat dep	18.8		27.6		17.2		43.5	
	s a qu	78.1		65.5		75.9		56.5	
	st q	3.1		6.9		6.9		0	
95% CI		l	u	L	u	l	u	l	u
	st q	8.90%	35.30%	14.70%	45.70%	7.60%	34.50%	25.60%	63.20%
	pat dep	61.20%	89.00%	47.30%	80.10%	57.90%	87.80%	36.80%	74.40%
	s a qu	0.60%	15.70%	1.90%	22.00%	1.90%	22.00%	0.00%	14.30%

Table 9: Older therapists use self administered medical history sheets less frequently than younger therapists. (pat dep… patient dependent, s a qu… self administered questionnaire, st q… standardised questionnaire).

ANOVA results show, that osteopaths aged between 36 and 40 years ask their patients significantly more often about former visceral dysfunctions than the osteopaths older than 45 years. Differences between this age group (36-40) and the other ones are less distinct and not significant. (cf. Table 10).

visceral dysfunction		<36		36-40		41-45		>45	
n	frequently	26		26		23		16	
	often	4		2		3		6	
	rarely	2		0		3		1	
	never	0		0		0		0	
%	frequently	81.3		92.9		79.3		69.6	
	often	12.5		7.1		10.3		26.1	
	rarely	6.3		0		10.3		4.3	
	never	0		0		0		0	
95% CI		l	u	L	u	l	u	l	U
	frequently	64.70%	91.10%	77.40%	98.00%	61.60%	90.20%	49.10%	84.40%
	often	5.00%	28.10%	2.00%	22.60%	3.60%	26.40%	12.50%	46.50%
	rarely	1.70%	20.10%	0.00%	12.10%	3.60%	26.40%	0.80%	21.00%
	never	0.00%	10.70%	0.00%	12.10%	0.00%	11.70%	0.00%	14.30%
Mean values:		3.75		3.93		3.69		3.65	
Standard deviations:		0.57		0.26		0.66		0.57	
ANOVA:		F=2.329		p= 0.132					
				F=3.180		p= 0.080			
				F= 5.209				p=0.027	

Table 10: Generally, most of the therapists ask their patients frequently about former visceral dysfunctions. The osteopaths aged between 36 and 40 years ask significantly more often than the osteopaths older than 45 years. Differences compared to the other groups are less significant.

Frequencies, how often osteopaths of different age gather anamnesis of visceral disorders of each individual organ (system) are shown in Table 11. No statistical significant differences between the age groups can be observed.

each organ		<36		36-40		41-45		>45	
n	frequently	13		11		13		8	
	often	9		9		8		8	
	rarely	8		7		7		6	
	2	2		1		1		2	
%	frequently	40.6		37.9		44.8		34.8	
	often	28.1		31		27.6		34.8	
	rarely	25		24.1		24.1		26.1	
	never	6.3		6.9		3.4		4.3	
95% CI		l	u	L	u	l	u	l	U
	frequently	25.50%	57.70%	22.70%	56.00%	28.40%	62.50%	18.80%	55.10%
	often	15.60%	45.40%	17.30%	49.20%	14.70%	45.70%	18.80%	55.10%
	rarely	13.30%	42.10%	12.20%	42.10%	12.20%	42.10%	12.50%	46.50%
	never	1.70%	20.10%	1.90%	22.00%	0.60%	17.20%	0.80%	21.00%
Mean values:		3.03		3.00		3.14		3.00	
Standard deviations:		0.967		0.964		0.915		0.905	

Table 11: There are no significant differences between the age-groups in the gathering of anamnesis of each organ (system) individually.

4.3.2 Visceral Techniques in Diagnostic Evaluation

In Table 12, different approaches during osteopathic diagnostic evaluation can be observed between the older and younger osteopaths. Younger therapists use visceral techniques for the diagnostic evaluation at each patient more often than the older therapists. Differences are most distinct between the osteopaths aged 36-40 and those between 41 and 45 years (χ^2= 2.90, p= 0.09). After the aggregation of two groups each into a new group with osteopaths younger than 41 years and one older than 40 years, similar results can be found in a χ^2-test, too (χ^2= 3.21, p= 0.07). The Differences are not significant on the level of significance of 0.05, but they might be tendencies.

diagnostic evaluation_visceral technique		<36		36-40		41-45		>45	
n	each	25		23		17		16	
	visc pr	7		6		12		7	
%	each	78.1		79.3		58.6		69.6	
	visc pr	21.9		20.7		41.4		30.4	
95% CI		l	u	L	u	l	u	l	u
	each	61.20%	89.00%	61.60%	90.20%	40.70%	74.50%	49.10%	84.40%
	visc pr	11.00%	38.80%	9.80%	38.40%	25.50%	59.30%	15.60%	50.90%

Table 12: Generally, in all age-groups, visceral techniques are used most often at each patient and not only if visceral problems are known, but there are differences between younger and older osteopaths.

There are only insignificant differences between the individual age groups in the frequency of application of visceral tests during osteopathic diagnostic evaluation (cf. Table 13). Nevertheless, younger osteopaths use them more often.

visceral tests general		<36		36-40		41-45		>45	
n	frequently	14		12		8		7	
	often	13		14		15		10	
	rarely	5		3		6		6	
	never	0		0		0		0	
%	frequently	43.8		41.4		27.6		30.4	
	often	40.6		48.3		51.7		43.5	
	rarely	15.6		10.3		20.7		26.1	
	never	-		-		-		-	
95% CI		l	u	L	u	l	u	l	u
	frequently	28.20%	60.70%	25.50%	59.30%	14.70%	45.70%	15.60%	50.90%
	often	25.50%	57.70%	31.40%	65.60%	34.40%	68.60%	25.60%	63.20%
	rarely	6.90%	31.80%	3.60%	26.40%	9.80%	38.40%	12.50%	46.50%
	never	0.00%	10.70%	0.00%	11.70%	0.00%	11.70%	0.00%	14.30%
Mean values:		3.28		3.31		3.07		3.04	
Standard deviations:		0.729		0.660		0.704		0.767	

Table 13: Visceral tests during diagnostic evaluation are used more often by younger osteopaths. Differences are not significant.

4.3.3 Visceral Treatment Techniques

In each age-group, visceral techniques are used most often during treatment, if diagnostic evaluation has resulted in visceral findings (cf. Table 14). No statistical significant differences between the individual age-groups can be observed.

Treatment_visceral		<36		36-40		41-45		>45	
n	always	1		2		1		1	
	visc f	20		16		20		12	
	visc pr	9		10		5		8	
%	always	3.3		7.1		3.8		4.8	
	visc f	66.7		57.1		76.9		57.1	
	visc pr	30.0		35.7		19.2		38.1	
95% CI		l	u	L	u	l	u	l	u
	visc pr	0.60%	16.70%	2.00%	22.60%	0.70%	18.90%	0.80%	22.70%
	always	48.80%	80.80%	39.10%	73.50%	57.90%	89.00%	36.50%	75.50%
	visc f	16.70%	47.90%	20.70%	54.20%	8.50%	37.90%	20.80%	59.10%

Table 14: Most of the therapists use visceral techniques, if diagnosis resulted in visceral findings.

Frequent use of visceral techniques decreases with the age of the therapists, as can be observed in Table 15. Nevertheless, differences between the individual age groups are not significant.

visceral techniques general		<36		36-40		41-45		>45	
n	Frequently	14		12		8		5	
	Often	12		13		16		12	
	Rarely	4		3		2		4	
	Never	0		0		0		0	
%	frequently	46.7		42.9		30.8		23.8	
	Often	40		46.4		61.5		57.1	
	Rarely	13.3		10.7		7.7		19.0	
	Never	-		-		-		-	
95% CI		l	u	L	u	l	u	l	u
	frequently	30.20%	63.90%	26.50%	60.90%	16.50%	50.00%	10.60%	45.10%
	Often	24.60%	57.70%	29.50%	64.20%	42.50%	77.60%	36.50%	75.50%
	Rarely	5.30%	29.70%	3.70%	27.20%	2.10%	24.10%	7.70%	40.00%
	Never	0.00%	11.40%	0.00%	12.10%	0.00%	12.90%	0.00%	15.50%
Mean values:		3.33		3.32		3.23		3.05	
Standard deviations:		0.711		0.670		0.587		0.669	

Table 15: The frequent use of visceral techniques decreases with the age of the therapists.

4.3.4 Summary

Anamnesis

Significant differences between the oldest therapists (>45 years) and the youngest (<36 years) as well as the osteopaths aged between 41-45 years can be observed in gathering anamnesis. Older therapists perform their anamnesis dependent on the patient more often, whereas the others use questionnaires more often than the older ones.

Secondly, osteopaths aged between 36 and 40 years ask their patients most often about former visceral dysfunctions than the other therapists. Differences between this age group and the osteopaths older than 45 years are statistically significant, the other differences might be interpreted as tendencies.

Diagnosis

Different approaches during osteopathic diagnostic evaluation can be observed between the older (>40 years) and younger osteopaths (<41 years). The younger therapists use visceral techniques for the treatment of each patient more often than the older therapists. Differences are not significant on the level of significance of 0.05, but might be interpreted as tendencies.

4.4 Dependencies on Patient Structure

ANOVA indicates dependencies of the usage of different visceral methods on the patient structure of the osteopaths. Thus, the original findings were classified by the relative frequency of patients with primary visceral dysfunctions. The four groups were generated by using the 25%-, 50%- and 75%-percentiles as threshold values.

4.4.1 Visceral Anamnesis

Independently of the relative frequency of patients with primary visceral dysfunctions, self administered questionnaires are used most frequently in each group. No significant differences between the individual groups in the use of different methods for gathering anamnesis can be observed (cf. Table 16).

anamnesis		<6		6-10		11-20		>20	
n	pat dep	9		15		3		3	
	s a qu	21		20		26		12	
	st q	0		4		0		1	
%	pat dep	30.0		38.5		10.3		18.8	
	s a qu	70.0		51.3		89.7		75.0	
	st q	0.0		10.3		0.0		6.3	
95% CI		l	u	L	u	l	u	l	u
	st q	16.7%	47.9%	24.9%	54.1%	3.6%	26.4%	6.6%	43.0%
	pat dep	52.1%	83.3%	36.2%	66.1%	73.6%	96.4%	50.5%	89.8%
	s a qu	0.0%	11.4%	4.1%	23.6%	0.0%	11.7%	1.1%	28.3%

Table 16: Self administered questionnaires are used most frequently in each group. There are no significant differences between the individual groups (pat dep… patient dependent, s a qu… self administered questionnaire, st q… standardised questionnaire).

There are no significant differences between the individual groups in the frequency the therapists ask their patients about former visceral dysfunctions, either (cf. Table 17).

visceral dysfunction		<6		6-10		11-20		>20	
n	frequently	22		33		25		12	
	often	5		3		3		4	
	rarely	2		3		1		0	
	never	0		0		0		0	
%	frequently	75.9		84.6		86.2		75.0	
	often	17.2		7.7		10.3		25.0	
	rarely	6.9		7.7		3.4		0.0	
	never	-		-		-		-	
95% CI		l	u	L	U	l	u	l	u
	frequently	57.9%	87.8%	70.3%	92.8%	69.4%	94.5%	50.5%	89.8%
	often	7.6%	34.5%	2.7%	20.3%	3.6%	26.4%	10.2%	49.5%
	rarely	1.9%	22.0%	2.7%	20.3%	0.6%	17.2%	0.0%	19.4%
	never	0.0%	11.7%	0.0%	9.0%	0.0%	11.7%	0.0%	19.4%
Mean values:		3.69		3.77		3.83		3.75	
Standard deviations:		0.604		0.583		0.468		0.447	

Table 17: There are no significant differences between the individual groups in the frequency how often therapists ask their patients about former visceral dysfunctions during anamnesis.

While osteopaths with a low number of patients with primary visceral dysfunctions gather anamnesis about diseases of each organ (system) individually, less often (or even never), therapists with a higher number of such patients do so more frequently (cf. Table 18). Taking into consideration above-average and below-average frequencies, there are significant differences between the group with more than 20% of patients with visceral dysfunctions (>20) and the others (>20/<6: χ^2= 5.963, p= 0.015, >20/6-10: χ^2= 4.386,

p= 0.036 and with less significance >20/11-20: χ^2= 2.934, p= 0.087). The other groups do not differ significantly. ANOVA reaches the same result, and additionally shows differences between the group 11-20 and <6 (with low significance). The groups <6 and 6-10 do not differ significantly at all.

each organ		<6		6-10		11-20		>20	
n	frequently	9		15		12		10	
	often	9		11		9		5	
	rarely	8		11		8		1	
	never	4		2		0		0	
%	frequently	30.0		38.5		41.4		62.5	
	often	30.0		28.2		31.0		31.3	
	rarely	26.7		28.2		27.6		6.3	
	never	13.3		5.1		-		-	
95% CI		l	u	L	u	l	u	l	u
	frequently	16.7%	47.9%	24.9%	54.1%	25.5%	59.3%	38.6%	81.5%
	often	16.7%	47.9%	16.5%	43.8%	17.3%	49.2%	14.2%	55.6%
	rarely	14.2%	44.4%	16.5%	43.8%	14.7%	45.7%	1.1%	28.3%
	never	5.3%	29.7%	1.4%	16.9%	0.0%	11.7%	0.0%	19.4%
Mean values:		2.77		3.00		3.14		3.56	
Standard deviation:		1.04		0.946		0.833		0.629	
ANOVA:		F= 0.946		p= 0.334					
		F= 2.280				p= 0.137			
		F= 7.795						p= 0.008	
				F= 4.764				p= 0.034	
						F= 3.148		p= 0.083	

Table 18: The higher the percentage of patients with visceral dysfunctions, the more often therapists gather anamnesis for each individual organ (system).

4.4.2 Visceral Techniques in Diagnostic Evaluation

Osteopaths with 11-20% of patients with visceral dysfunctions apply visceral techniques during diagnostic evaluation most often to each patient, whereas therapists with less than 6% and more than 20% do so most seldom (cf. Table). The differences are not statistically firm ("11-20"/"<6": χ^2= 2.815, p= 0.093), but they might represent tendencies.

diagnostic evaluation_visceral technique		<6	6-10	11-20	>20
n	each	19	28	24	11
	visc pr	11	11	5	5

Table 19: In each group, visceral techniques in osteopathic diagnostic evaluation are most often applied to each patient and not only to patients with visceral problems. Osteopaths with 11-20% of patients with visceral dysfunctions use them most often.

%	each	63.3		71.8		82.8		68.8	
	visc pr	36.7		28.2		17.2		31.3	
95% CI		L	u	L	u	l	u	l	u
	each	45.5%	78.1%	56.2%	83.5%	65.5%	92.4%	44.4%	85.8%
	visc pr	21.9%	54.5%	16.5%	43.8%	7.6%	34.5%	14.2%	55.6%

Table 19 (cont.): In each group, visceral techniques in the osteopathic diagnostic evaluation are most often applied to each patient and not only to patients with visceral problems. Osteopaths with 11-20% of patients with visceral dysfunctions use them most often.

There are differences in the frequency of performing visceral tests depending on the number of patients with visceral dysfunctions (cf. Table 20). Most often they are used by osteopaths with more than 20% of patients with visceral dysfunctions, followed by those with 6-10% and then by therapists with 11-20% of patients with visceral dysfunctions. Osteopaths with less than 6% of patients with visceral dysfunctions use them most seldom. According to ANOVA results, the group <6 differs with slight significance from the groups 6-10 and >20, respectively.

visceral tests general		<6		6-10		11-20		>20	
n	frequently	9		17		7		9	
	often	11		16		20		5	
	rarely	10		6		2		2	
	never	0		0		0		0	
%	frequently	30.0		43.6		24.1		56.3	
	often	36.7		41.0		69.0		31.3	
	rarely	33.3		15.4		6.9		12.5	
	never	-		-		-		-	
95% CI		L	u	L	u	l	u	l	u
	frequently	16.7%	47.9%	29.3%	59.0%	12.2%	42.1%	33.2%	76.9%
	often	21.9%	54.5%	27.1%	56.6%	50.8%	82.7%	14.2%	55.6%
	rarely	19.2%	51.2%	7.2%	29.7%	1.9%	22.0%	3.5%	36.0%
	never	0.0%	11.4%	0.0%	9.0%	0.0%	11.7%	0.0%	19.4%
Mean values:		2.97		3.28		3.17		3.44	
Standard deviations:		0.809		0.724		0.539		0.727	
ANOVA:		F= 2.908		P= 0.093					
		F= 1.31				p= 0.257			
		F= 3.783						p= 0.058	
						F= 1.938		p= 0.171	

Table 20: Osteopaths with a low number of patients with visceral dysfunctions use visceral tests less frequently, than the others.

4.4.3 Visceral Treatment Techniques

The most common reason for the application of visceral treatment techniques is the diagnosis of visceral findings. (cf. Table 21). No significant differences can be observed between the individual groups.

treatment_visceral		<6		6-10		11-20		>20	
N	always	0		5		0		1	
	visc f	18		18		21		11	
	visc pr	11		12		8		1	
%	always	-		14.3		-		7.7	
	visc f	62.1		51.4		72.4		84.6	
	visc pr	37.9		34.3		27.6		7.7	
95% CI		L	u	L	u	l	u	l	u
	visc pr	0.0%	11.7%	6.3%	29.4%	0.0%	11.7%	1.4%	33.3%
	always	44.0%	77.3%	35.6%	67.0%	54.3%	85.3%	57.8%	95.7%
	visc f	22.7%	56.0%	20.8%	50.8%	14.7%	45.7%	1.4%	33.3%

Table 21: Most of the therapists use visceral techniques, if they have diagnosed visceral findings, independent from the number of patients with visceral dysfunctions.

The highest count of frequent usage of visceral techniques can be observed in the group with more than 20% of patients with primary visceral disorders, but analysis of the ordinal values shows a higher usage in the 11- 20% - group. According to ANOVA, this group is significantly different from the group of osteopaths with less than 6% of visceral patients. Probably, the latter is also different from the other ones, but results indicate only a slight significance.

visceral techniques general		<6		6-10		11-20		>20	
n	frequently	7		15		12		6	
	Often	16		16		16		5	
	rarely	6		4		1		2	
	never	0		0		0		0	
%	frequently	24.1		42.9		41.4		46.2	
	often	55.2		45.7		55.2		38.5	
	rarely	20.7		11.4		3.4		15.4	
	never	-		-		-		-	
95% CI		L	u	L	u	l	U	l	u
	frequently	12.2%	42.1%	28.0%	59.1%	25.5%	59.3%	23.2%	70.9%
	often	37.5%	71.6%	30.5%	61.8%	37.5%	71.6%	17.7%	64.5%
	rarely	9.8%	38.4%	4.5%	26.0%	0.6%	17.2%	4.3%	42.2%
	never	0.0%	11.7%	0.0%	9.9%	0.0%	11.7%	0.0%	22.8%

Table 22: The highest count of frequent usage of visceral techniques can be observed in the group with more than 20% of patients with visceral problems.

Mean values:	3.03	3.31	3.38	3.31
Standard deviations:	0.680	0.676	0.561	0.751
ANOVA	F= 2.700	p= 0.105		
	F= 4.430		p= 0.040	
	F= 3.783			p= 0.058

Table 22 (cont.): The highest count of frequent usage of visceral techniques can be observed in the group with more than 20% of patients with visceral problems.

4.4.4 Summary

Anamnesis

While osteopaths with a low number of patients with primary visceral dysfunctions gather anamnesis of each individual organ (system) less often (or even never), therapists with a higher number of such patients do so more frequently. Differences between the group of osteopaths with more than 20% of patients with primary visceral diseases and the two groups with less than 10% of these patients are statistically significant. Additionally, there are less significant differences (tendencies), between the group of osteopaths with 11-20% of patients with primary visceral diseases and the group ">20" and "<6".

Diagnosis

Osteopaths with 11-20% of patients with visceral dysfunctions apply visceral techniques most often to each patient, whereas therapists with less than 6% and more than 20% do so least frequently. The differences are not statistically firm, but might represent be tendencies.

There are differences in the frequency of performing visceral tests depending on the number of patients with primary visceral dysfunctions. Visceral tests are applied most often by osteopaths with more than 20% of patients with visceral dysfunctions, followed by those with 6-10% and then by therapists with 11-20%. Osteopaths with less than 6% patients with visceral dysfunctions use them least frequently. The group <6 differs with slight significance from the groups 6-10 and >20, respectively.

Treatment

Osteopaths with less than 6% of patients with visceral complaints use visceral techniques most rarely and differences to the group with 11- 20% of such patients are significant. Differences to the other groups are insignificant, but may represent a tendency.

4.5 Dependencies on the Experience of the Osteopaths

Doing a classification by the final years of the osteopathic education, I want to find out, if experience of the osteopaths influences the use of visceral techniques.

4.5.1 Visceral Anamnesis

Patient dependent anamnesis is most commonly done by osteopaths with a final year prior to 2001. The differences between this group and the other ones are not significant, but the most distinct differences (<2001 vs. >2005/ "patient dependent" vs. odds) results in χ^2= 2.814, p= 0.093 (tendency). Standardized questionnaires are most frequently used by the most experienced osteopaths, too. Nevertheless, the mode values are the same in all groups. Predominantly, the osteopaths use self administered questionnaires (cf. Table 23).

Anamnesis		<2001		01-02		03-05		>2005	
n	pat dep	16		3		6		5	
	s a qu	21		16		23		19	
	st q	3		0		1		1	
%	pat dep	40.0		15.8		20.0		20.0	
	s a qu	52.5		84.2		76.7		76.0	
	st q	7.5		0.0		3.3		4.0	
95% CI		l	u	L	u	l	u	l	u
	st q	26.3%	55.4%	5.5%	37.6%	9.5%	37.3%	8.9%	39.1%
	pat dep	37.5%	67.1%	62.4%	94.5%	59.1%	88.2%	56.6%	88.5%
	s a qu	2.6%	19.9%	0.0%	16.8%	0.6%	16.7%	0.7%	19.5%

Table 23: In spite of the same mode values in the individual groups (self administered questionnaires are used most frequently), osteopaths, who finished their education before 2001, perform their anamnesis patient dependent more frequently than the other therapists.

Independent of the final year of osteopathic education, most of the therapists ask their patients frequently about visceral dysfunctions (cf. Table 24). Differences between the individual groups are not significant.

visceral dysfunction		<2001		01-02		03-05		>2005	
n	frequently	34		14		25		19	
	often	4		2		5		4	
	rarely	2		2		0		2	
	never	0		0		0		0	
%	frequently	85.0		77.8		83.3		76.0	
	often	10.0		11.1		16.7		16.0	
	rarely	5.0		11.1		0.0		8.0	
	never	0.0		0.0		0.0		0.0	
95% CI		l	u	L	u	l	u	l	u
	frequently	70.9%	92.9%	54.8%	91.0%	66.4%	92.7%	56.6%	88.5%
	often	4.0%	23.1%	3.1%	32.8%	7.3%	33.6%	6.4%	34.7%
	rarely	1.4%	16.5%	3.1%	32.8%	0.0%	11.4%	2.2%	25.0%
	never	0.0%	8.8%	0.0%	17.6%	0.0%	11.4%	0.0%	13.3%
Mean values:		3.80		3.67		3.83		3.68	
Standard deviations:		0.516		0.686		0.379		0.627	

Table 24: Generally, most of the therapists ask their patients frequently about former visceral dysfunctions.

Osteopaths gathering anamnesis of each organ individually, are most frequent in the group "03-05" and least frequent in the group "01-02". Differences between the individual groups are not statistically firm.

each organ		<2001		01-02		03-05		>2005	
n	frequently	18		7		12		9	
	often	13		3		12		6	
	rarely	6		8		6		8	
	never	3		1		0		2	
%	frequently	45.0		36.8		40.0		36.0	
	often	32.5		15.8		40.0		24.0	
	rarely	15.0		42.1		20.0		32.0	
	never	7.5		5.3		0.0		8.0	
95% CI		l	u	L	u	l	u	l	u
	frequently	30.7%	60.2%	19.1%	59.0%	24.6%	57.7%	20.2%	55.5%
	often	20.1%	48.0%	5.5%	37.6%	24.6%	57.7%	11.5%	43.4%
	rarely	7.1%	29.1%	23.1%	63.7%	9.5%	37.3%	17.2%	51.6%
	never	2.6%	19.9%	0.9%	24.6%	0.0%	11.4%	2.2%	25.0%
Mean values:		3.15		2.84		3.20		2.88	
Standard deviations:		0.949		1.015		0.761		1.013	

Table 25: Frequencies on how often osteopaths ask their patients about visceral dysfunctions of each organ individually. Therapists who have finished their osteopathic basis training during 2003-05 do so most frequently.

4.5.2 Visceral Techniques in Diagnostic Evaluation

Visceral techniques used during osteopathic diagnostic evaluation most commonly are applied to all patients and not only to patients with known visceral problems. Nevertheless, the group of osteopaths with the final years 2001 and 2002, differs significantly from osteopaths who finished their studies between 2003 and 2005 (cf. Table 26). The corresponding χ^2 is 5.372 and the p-value 0.021. No other significant differences could be observed.

diagnostic evaluation_visceral technique		<2001		01-02		03-05		>2005	
n	each	30		10		25		17	
	visc pr	10		9		5		8	
%	each	75.0		52.6		83.3		68.0	
	visc pr	25.0		47.4		16.7		32.0	
95% CI		l	U	L	u	l	u	l	u
	each	59.8%	85.8%	31.7%	72.7%	66.4%	92.7%	48.4%	82.8%
	visc pr	14.2%	40.2%	27.3%	68.3%	7.3%	33.6%	17.2%	51.6%

Table 26: Osteopaths with the final years 2001 and 2002 use visceral techniques for each patient during osteopathic diagnostic evaluation least frequently.

Consequently, visceral tests are performed least frequently by the osteopaths of the same group (cf. Table 27). ANOVA results in differences of an at least slight significance between the group 03-05 and the other groups. A subsequent χ^2-test of "01-02" vs. "03-05" and above-average and below-average frequency results in χ^2= 5.718 and p= 0.017.

visceral tests general		<2001		01-02		03-05		>2005	
n	frequently	15		4		14		9	
	often	17		10		15		10	
	rarely	8		5		1		6	
	never	0		0		0		0	
%	frequently	37.5		21.1		46.7		36.0	
	often	42.5		52.6		50.0		40.0	
	rarely	20.0		26.3		3.3		24.0	
	never	-		-		-		-	
95% CI		l	u	L	u	l	u	l	u
	frequently	24.2%	53.0%	8.5%	43.3%	30.2%	63.9%	20.2%	55.5%
	often	28.5%	57.8%	31.7%	72.7%	33.2%	66.8%	23.4%	59.3%
	rarely	10.5%	34.8%	11.8%	48.8%	0.6%	16.7%	11.5%	43.4%
	never	0.0%	8.8%	0.0%	16.8%	0.0%	11.4%	0.0%	13.3%

Table 27: Therapists who finalized their osteopathic basis training in 2001 and 2002 use visceral techniques during diagnosis least frequently, those of the group "03-05" most frequently.

Mean values:	3.18	2.95	3.43	3.12
Standard deviations:	0.747	0.705	0.568	0.781
visceral tests general	<2001	01-02	03-05	>2005
ANOVA:	F= 2.498		p= 0.119	
		F= 7.050	p= 0.011	
			F= 2.956	p=0.091

Table 27 (cont.): Frequencies of the application of visceral tests in the groups "01-02" and "03-05" differ significantly.

4.5.3 Visceral Treatment Techniques

Visceral techniques during treatment are used least frequently by osteopaths, who have finished their osteopathic training after 2005 (cf. Table 28). By contrast, osteopaths who use visceral techniques in any case, can be found most frequently in the group <2001. Nevertheless, differences between the individual groups are not statistically significant.

treatment_visceral		<2001		01-02		03-05		>2005	
n	always	5		0		1		0	
	visc f	20		13		19		16	
	visc pr	10		5		8		9	
%	always	14.3		0.0		3.6		0.0	
	visc f	57.1		72.2		67.9		64.0	
	visc pr	28.6		27.8		28.6		36.0	
95% CI		l	u	L	u	l	u	l	U
	visc pr	6.3%	29.4%	0.0%	17.6%	0.6%	17.7%	0.0%	13.3%
	always	40.9%	72.0%	49.1%	87.5%	49.3%	82.1%	44.5%	79.8%
	visc f	16.3%	45.1%	12.5%	50.9%	15.3%	47.1%	20.2%	55.5%

Table 28: Most of the therapists use visceral techniques, if they have diagnosed visceral dysfunctions ("visc f").

Similarly to diagnosis, visceral techniques are used least frequently for treatment in the group of osteopaths with years of graduation 2001 and 2002. Since expected frequencies are less than five in 50% of the cases, calculation of χ^2 is not possible between the groups "01-02" and "03-05". Results of ANOVA as well as χ^2-tests of the other groups do not show significant differences, but there might be a tendency (cf. Table 29).

visceral techniques general		<2001	01-02	03-05	>2005
N	frequently	14	5	10	11
	often	18	8	17	10
	rarely	3	5	1	4
	never	0	0	0	0
%	frequently	40.0	27.8	35.7	44.0
	often	51.4	44.4	60.7	40.0
	rarely	8.6	27.8	3.6	16.0
	never	-	-	-	-

		l	u	L	U	l	u	l	u
95% CI	frequently	25.6%	56.4%	12.5%	50.9%	20.7%	54.2%	26.7%	62.9%
	often	35.6%	67.0%	24.6%	66.3%	42.4%	76.4%	23.4%	59.3%
	rarely	3.0%	22.4%	12.5%	50.9%	0.6%	17.7%	6.4%	34.7%
	never	0.0%	9.9%	0.0%	17.6%	0.0%	12.1%	0.0%	13.3%
Mean values:		3.31		3.00		3.32		3.28	
Standard deviations:		0.631		0.767		0.548		0.737	
ANOVA:		F= 2.543		P= 0.117					
				F= 2.750		p= 0.104			
				F=1.460				p= 0.233	

Table 29: Most cases with frequent use of visceral techniques can be found in the group of osteopaths with final years after 2005 (mode: "frequent"). The modes of the other groups are "often".

4.5.4 Summary

Anamnesis

Patient dependent anamnesis is most commonly done by osteopaths who graduated from their osteopathic training prior to 2001. The most distinct differences (between groups of osteopaths who have finished before 2001 and after 2005) might represent tendencies.

Diagnosis

Visceral techniques used during osteopathic diagnostic evaluation commonly are applied to all patients and not only to patients with known visceral problems. Nevertheless, the group of osteopaths with final years 2001 and 2002, where this frequency is lowest, differs significantly from osteopaths who finished their studies between 2003 and 2005.

Consequently, visceral tests are performed least frequently by the osteopaths of the same group. Frequencies of the application of visceral tests in the groups "01-02" and "03-05" differ significantly, the results of the other comparisons show only differences of lower significance.

Treatment

Similarly to diagnosis, visceral techniques are used least frequently in the group of osteopaths with final years 2001 and 2002 for treatment. Nevertheless, differences between this and the other groups are not significant, but might represent a tendency.

4.6 Dependencies on the Osteopathic Educational Institutions

In this chapter the question is proposed whether different curricula of osteopathic educational institutions in teaching visceral techniques have an influence on the application of visceral techniques. Since group sizes of osteopaths from the DOK and other institutions are low, these results can only be considered as a general overview.

4.6.1 Visceral Anamnesis

Standardized questionnaires are used only by students of the WSO. Students of the DOK seem to work in a more patient dependent way than osteopaths trained at the WSO (cf. Table 30).

anamnesis		WSO		DOK		other	
n	pat dep	24		4		2	
	s a qu	69		6		4	
	st q	5		0		0	
%	pat dep	24.5		40.0		33.3	
	s a qu	70.4		60.0		66.7	
	st q	5.1		0.0		0.0	
95% CI		l	U	l	u	l	u
	st q	17.0%	33.9%	16.8%	68.7%	9.7%	70.0%
	pat dep	60.7%	78.5%	31.3%	83.2%	30.0%	90.3%
	s a qu	2.2%	11.4%	0.0%	27.8%	0.0%	39.0%

Table 30: Independent from the osteopathic school, self administered questionnaires are used most frequently.

The frequency osteopaths ask their patients about former visceral dysfunctions is high in all groups (cf. Table , mode: "frequently").

visceral dysfunction		WSO		DOK		other	
n	frequently	80		8		4	
	often	12		1		2	
	rarely	5		1		0	
	never	0		0		0	
%	frequently	82.5		80.0		66.7	
	often	12.4		10.0		33.3	
	rarely	5.2		10.0		0.0	
	never	0.0		0.0		0.0	
95% CI		l	U	l	u	l	u
	frequently	73.7%	88.8%	49.0%	94.3%	30.0%	90.3%
	often	7.2%	20.4%	1.8%	40.4%	9.7%	70.0%
	rarely	2.2%	11.5%	1.8%	40.4%	0.0%	39.0%
	never	0.0%	3.8%	0.0%	27.8%	0.0%	39.0%

Table 31: Most osteopaths ask their patients about former visceral problems "frequently" during anamnesis, independently of the institution, where they trained.

Mean values:	3.77	3.70	3.67
Standard deviations:	0.530	0.675	0.516

Table 31 (cont.): Most osteopaths ask their patients about former visceral problems "frequently" during anamnesis, independently of the institution, where they trained.

Most osteopaths who finished education at the WSO gather anamnesis of each organ (system) individually. Osteopaths trained at the DOK do so less often. Significance of ANOVA results is low (cf. Table 32).

each organ		WSO		DOK		other	
n	frequently	42		1		3	
	often	28		5		1	
	rarely	24		3		1	
	never	4		1		1	
%	frequently	42.9		10.0		50.0	
	often	28.6		50.0		16.7	
	rarely	24.5		30.0		16.7	
	never	4.1		10.0		16.7	
95% CI		l	U	l	u	l	u
	frequently	33.5%	52.7%	1.8%	40.4%	18.8%	81.2%
	often	20.6%	38.2%	23.7%	76.3%	3.0%	56.4%
	rarely	17.0%	33.9%	10.8%	60.3%	3.0%	56.4%
	never	1.6%	10.0%	1.8%	40.4%	3.0%	56.4%
Mean values:		3.1		2.6		3.0	
Standard deviations:		0.91		0.84		1.26	
ANOVA:		F= 2.774		p= 0.099			

Table 32: Frequencies, how often patients are asked about former visceral problems of each organ individually.

4.6.2 Visceral Techniques in Diagnostic Evaluation

Osteopaths who finished their training at the WSO, use visceral techniques more often for each patient, than those from other institutions during the osteopathic diagnostic evaluation.

diagnostic evaluation_visceral technique		WSO		DOK		other	
N	each	73		6		3	
	visc pr	25		4		3	
%	each	74.5		60.0		50.0	
	visc pr	25.5		40.0		50.0	
95% CI		l	U	l	u	l	u
	each	65.0%	82.1%	31.3%	83.2%	18.8%	81.2%
	visc pr	17.9%	35.0%	16.8%	68.7%	18.8%	81.2%

Table 33: Osteopaths who have finished their training at the WSO, use visceral techniques more often for each patient than the other osteopaths.

Osteopaths who have studied at the DOK, use visceral tests more frequently than those trained at the WSO or at other institutions.

visceral tests general		WSO		DOK		other	
n	Frequently	36		4		2	
	Often	44		5		3	
	Rarely	18		1		1	
	Never	0		0		0	
%	Frequently	36.7		40.0		33.3	
	Often	44.9		50.0		50.0	
	Rarely	18.4		10.0		16.7	
	Never	0.0		0.0		0.0	
95% CI		l	U	l	u	l	u
	Frequently	27.9%	46.6%	16.8%	68.7%	9.7%	70.0%
	Often	35.4%	54.8%	23.7%	76.3%	18.8%	81.2%
	Rarely	11.9%	27.2%	1.8%	40.4%	3.0%	56.4%
	Never	0.0%	3.8%	0.0%	27.8%	0.0%	39.0%
Mean values:		3.18		3.30		3.17	
Standard deviations:		0.723		0.675		0.753	

Table 34: Visceral tests are used most often by osteopaths trained at the DOK.

4.6.3 Visceral Treatment Techniques

Visceral findings are the most common reason for the application of visceral treatment techniques, independently from the institution where the osteopaths trained.

treatment_visceral		WSO		DOK		other	
n	Always	4		2		0	
	visc f	58		6		4	
	visc pr	29		2		1	
%	Always	4.4		20.0		0.0	
	visc f	63.7		60.0		80.0	
	visc pr	31.9		20.0		20.0	
95% CI		l	U	l	u	l	u
	visc pr	1.7%	10.8%	5.7%	51.0%	0.0%	43.4%
	always	53.5%	72.9%	31.3%	83.2%	37.6%	96.4%
	visc f	23.2%	42.0%	5.7%	51.0%	3.6%	62.4%

Table 35: In all groups visceral findings are the most common reason for visceral treatment techniques.

Visceral treatment techniques are most often performed by graduates of the DOK.

visceral techniques general		WSO		DOK		other	
n	frequently	32		6		2	
	often	48		3		2	
	rarely	11		1		1	
	never	0		0		0	
	frequently	35.2		60.0		40.0	
	often	52.7		30.0		40.0	
	rarely	12.1		10.0		20.0	
	never	-		-		-	
95% CI		l	U	l	u	L	u
	frequently	26.1%	45.4%	31.3%	83.2%	11.8%	76.9%
	often	42.6%	62.7%	10.8%	60.3%	11.8%	76.9%
	rarely	6.9%	20.4%	1.8%	40.4%	3.6%	62.4%
	never	0.0%	4.1%	0.0%	27.8%	0.0%	43.4%
Mean values:		3.23		3.50		3.20	
Standard deviations:		0.651		0.707		0.837	

Table 36: Visceral treatment techniques is most often performed by graduates of the DOK.

4.6.4 Summary

Since the sample number of osteopaths trained at educational institutions other than WSO, is low, possible differences could not be worked out with sufficient accuracy. The results presented above can be only considered as general overview.

4.7 Correlations of Osteopathic Visceral Findings with Visceral Treatment Techniques

A linear positive association between the frequencies of use of visceral tests during diagnosis and the frequencies of the application of visceral treatment techniques during treatment can be found (Spearman correlation coefficient: $\rho = 0.666$, with $p<0.001$).

The frequencies of visceral techniques can be observed in Table 37.

		visceral tests general (Diagnosis)			
visceral techniques general		frequently	often	rarely	never
n	frequently	29	10	1	0
	Often	10	38	5	0
	Rarely	0	2	11	0
	Never	0	0	0	0
%	frequently	74.4	20.0	5.9	-
	Often	25.6	76.0	29.4	-
	Rarely	-	4.0	64.7	-
	Never	-	-	-	-

		l	u	l	u	l	u	l	u
95% CI	frequently	58.9%	85.4%	11.2%	33.0%	1.0%	27.0%	-	-
	often	14.6%	41.1%	62.6%	85.7%	13.3%	53.1%	-	-
	rarely	0.0%	9.0%	1.1%	13.5%	41.3%	82.7%	-	-
	never	0.0%	9.0%	0.0%	7.1%	0.0%	18.4%	-	-

Table 37: Cross-table of the frequencies of the application of visceral techniques in diagnostic evaluation and treatment.

4.8 Summary of Influences on the Application of Visceral Techniques

Significant differences between individual groups can be found in:

- the way osteopaths perform their anamnesis
- the frequency how often osteopaths ask their patients about former dysfunctions of the visceral system
- the number of osteopaths gathering anamnesis of each organ (system) individually
- the frequency osteopaths ask their patients about former visceral dysfunctions
- the frequency osteopaths apply visceral tests during diagnosis, and
- the frequency osteopaths use visceral techniques for treatment.

Anamnesis

The way osteopaths perform their anamnesis (whether they gather anamnesis dependent on the individual patient or they use medical history sheets) is dependent on

- the age of the osteopaths only.
- the final year of osteopathic training (hint)

The frequency how often patients are asked about former dysfunctions in the visceral system is depending on the

- basic occupation of the osteopaths.
- age of the osteopaths (hint)

The number of osteopaths gathering anamnesis of each organ (system) individually, is dependent on:

- the basic profession of the osteopaths (hint)
- the number of patients who seek osteopathic advice due to primary visceral problems and
- the institution where the osteopaths did their osteopathic training.

The major influence is the number of patients who seek osteopathic advice due to primary visceral problems.

The frequency osteopaths ask their patients about former visceral dysfunctions is dependent on:

- the basic profession of the osteopaths, and
- the age of the osteopaths.

Diagnosis

The frequency osteopaths apply visceral tests during diagnostic examination is dependent on:

- the number of patients who seek osteopathic advice due to primary visceral problems, and
- the final year of osteopathic training.

Treatment.

The same accounts for the frequency osteopaths use visceral techniques for treatment.

Generally, the major influences on the way osteopaths use visceral methods is the number of patients who seek osteopathic advice due to primary visceral problems and - to a lesser extent - the experience of the osteopaths.

Additional hints for possible influences are:

The age of the osteopaths and the number of patients who seek osteopathic advice due to primary visceral problems might influence the osteopaths, whether they apply visceral techniques to each patient during diagnostic examination or only to patients with visceral problems.

5 Discussion

5.1 Discussion of the Method

Response rate

The total response rate is 36.3%. The response rate of postal survey was higher (66.6%) than of web-survey (30.8%). No statistical differences between postal survey and web survey could be observed.
Nevertheless, a high sample number does not automatically mean that results are representing the population. For example, therapists, who do not use visceral techniques at all (due to unknown reasons), might not have taken part in the survey, since they are not affected by this topic.
Possibly, this might be a reason for the low frequency of the answer "never".

Sample size

I tried to find a balance between the requirement of a high sample size for statistical evaluation and the possibility to distinguish between different groups by the aggregation of answers. Nevertheless, some of the subgroups are too small for an accurate evaluation and findings can only be interpreted as trends.

Deviations from normal distribution

Analysis of variance (ANOVA) is robust to deviations from normality. Generally, the condition of homogeneity of variance is fulfilled (Levene's test) and thus this method may be applied.

5.2 Discussion of the Results

The aim of my thesis is to investigate which techniques of visceral osteopathy are used for diagnostic evaluation, which techniques from visceral osteopathy are used in treatment and whether there are differences in the frequency of use of visceral techniques that depend on the basic occupation, the age, the experience or different training of the osteopaths, or whether there are differences in the frequency of use of visceral techniques that depend on the complaints of the patient. Furthermore the question shall be answered

whether osteopaths still feel familiar with the terms visceral, cranial and structural techniques in their every-day practice.

Concerning the fundamental questions about the use of visceral techniques

Kronke (2006) notes: *„Although in daily work the three concepts of osteopathy can not be separated, it is interesting to see that the visceral part is only 18% of all concepts".* Contrary to the ascertainment of the fact that the three osteopathic concepts cannot be separated in practice anymore, I observed that only six of 117 osteopaths (5,3%) taking part in my investigation, say they cannot assign the techniques they use to the three osteopathic concepts structural, craniosacral and visceral osteopathy.

Even though Krönke (2006) observes that visceral techniques amount to only 18% of all techniques used in practice, my investigation showed that osteopaths use visceral techniques for diagnostic evaluation for each patient (71,9%) and generally at a very high proportion (45,6% frequently/ 36,8% often).

Furthermore, 37,7% of the osteopaths state that they use visceral technique frequently for treatment, and 50% say they use them often.

My investigation also shows a significant difference in the use of visceral techniques for diagnostic evaluation between the osteopaths who finished training in 2001 and 2002 and those who finished between 2003 and 2006. The survey for the investigation of Krönke (2006) was carried out in 2003, which possibly explains the divergent results from my thesis concerning the fundamental question about the frequency of use of visceral techniques.

My results also confirm the observation that there is an imbalance in the treatments between the techniques from the structural and cranial field of osteopathy to the disadvantage of techniques from the field of visceral osteopathy (Ligner, 2007) and therefore justifies the corresponding adaptation in the curriculum of the WSO.

As described in chapter 2.3, especially in Europe brilliant osteopaths like J.P. Barral (Barral/ Mercier 1988) focus on osteopathic principles in the visceral field. This focus leads to the elaboration and specification of specific visceral techniques, many of them nowadays standard in osteopathic training in Europe.

The results of my thesis give a first numeric information about the frequency of use of visceral techniques. For diagnostic evaluation, 71,9% of the questioned osteopaths use

visceral techniques for each patient and consequently, in case of an according finding, in treatment as well (37,7% frequently). This permits the conclusion that visceral osteopathy occupies an appropriate role in the current every day practice of Austrian osteopaths.

Concerning the questions about the complaints of patients

The majority of osteopaths (60,5%) claims that less than 10% of patients seek treatment because of complaints in the visceral field. Only 3,5% of the questioned osteopaths have more than 30% of patients who seek treatment because of complaints in the visceral field.
Only 17 of the osteopaths taking part in my investigation are doctors in their basic occupation. All osteopaths who trained as physiotherapists for basic occupation, could only treat patients on basis of a medical assignation for legal reasons. The medical assignation of patients for a physiotherapist are commonly based on diagnosis concerning the complaints referring to the musculoskeletal system. This may result in the very high percentage of patients who give structural complaints as a reason for visiting an osteopath.
In this context I would like to refer to the work of Wagner-Scheidl (2007) and the ongoing investigation of Wotruba and Seewald.
In this context it would be desirable to have more specific data about the knowledge of doctors concerning osteopathy, in order to be able to judge the real extent of the influence on the distribution of complaints which make patients visit an osteopath and if this has an impact on the decision of the osteopath, which osteopathic technique to use more or less frequently.
Moreover, a comparison with those European osteopaths who gain contact with patients without a prior medical assignation, because of a different legal situation, would be interesting.

Concerning the gathering of the anamnesis

Regardless of the small proportion of patients consulting an osteopath because of complaints in the visceral field, osteopaths ask their patients frequently (81,4%) about complaints in the visceral field. Physiotherapists do this significantly more often than doctors.
Taking into consideration the fact that in Austria both professional groups do their osteopathic training together in the same courses, the question about the reason for this significant difference has to be asked. It would be necessary to investigate, if the different

medical trainings are based on such divergent points of view and if those lead to this significant difference.

Concerning the gathering of osteopathic reports

As previously explained, osteopaths use visceral techniques for each patient (71,9%) while drawing up their osteopathic report, no matter which complaints are given as the reason for the consultation.

28,1% of the osteopaths use visceral techniques while drawing up osteopathic reports, but only for patients with specific visceral complaints.

This result permits the interpretation that nearly a third of the ostepaths do not practically apply their knowledge about the influence of visceral dysfunctions on the structural or craniosacral level of the patient and the connectivity of the individual systems among each other (cf. Korr, 1960/ McConnell, 1951/ Kuntz, 1951).

This emphasizes that the importance of the principle of connectivity of all structures of a patient's body has to be given special attention during the training of osteopaths and raises the question through which measures this can be carried out even more intensely.

Concerning the fundamental question about the application of visceral treatment techniques:

Summing up the categories in the answers to the question about the application of specific visceral techniques „frequent" and „often" to „above range", „rarely" and „never" to „below average", it turns out that at least 66% of osteopaths use these techniques above average.

In the guidelines for the question about the use of specific visceral techniques in my questionnaire, an evaluation in percentage would have probably brought up bigger differences in the frequency of use between the individual techniques. It has to be added critically that a pretest, which possibly would have shown this imprecision, was not carried out in my investigation.

If the questioned persons understood that both options for an answer in my questions about the general use of visceral treatment techniques (question nr. 20) mutually excluded each other – as explained in the explanation accompanying my questionnaire – osteopaths who trained as physiotherapists tend to treat their patients following their own osteopathic reports (65,9%) while doctors tend to be guided by the patient's complaints (43,8%).

Concerning the question of the influence of basic occupation, age, experience, different training of osteopaths or differences dependent on the complaints of the patients on the use of visceral techniques:

In the field of collecting the anamnesis it becomes evident that older osteopaths carry out their anamnesis dependant on the patient and ask less frequently about visceral dysfunctions.
Furthermore it shows that there is a tendency to the advantage of visceral techniques for diagnostic evaluation and during the treatment among younger osteopaths.
It should be investigated if this shows a lack of options for further training in the visceral field.

My survey shows a clear difference between the years of graduation from 2001 to 2002 and 2003 to 2005 in the use of visceral techniques both for diagnostic evaluation and for treatment.
The years prior and after this period show less differences, which leads to the assumption that in this case not only the osteopaths' experience played a role, but also their training.

Because of the very small number of participants in my survey who finished their osteopathic training at a different institution from the WSO, it can only be spoken of a possible trend.
According to this trend, graduates of the DOK use visceral techniques more frequently during diagnostic evaluation and treatment.
It would be interesting to extend my survey to osteopaths in other European countries in order to gain more precise information about the influence of the osteopathic training on the use of specific techniques.

There is a linear positive correlation between the frequency of the use of visceral tests during diagnosis and in the frequency of use of visceral techniques during treatment.
This result emphasizes the thesis of Clark (1952) who observed that an exact, detailled diagnosis is the most important and decisive factor for the choice and application of osteopathic techniques in an osteopathic treatment, as well as the following statement by Croibier: *"The term of diagnosis is strongly related to the term of therapy."* (Croibier, 2006, S.4)

Osteopaths, who have a percentage of patients with visceral complaints of more than 20%, use osteopathic techniques for diagnosis in the visceral field most frequently and subsequently during treatment as well.

Those osteopaths who have less than 6% of patients with visceral complaints, say that they rarely use visceral techniques for diagnosis for all patients and subsequently during treatment as well.
It shows that the sensibilization of osteopaths for the visceral field and the use of visceral techniques in diagnosis and treatment depends on the nummer of patients consulting an osteopath for visceral complaints.

The osteopaths pracitising in Austria aspire an individual job image within the Austrian health system following European ideals, as it exists in Britain. This would mean that patients with any kind of complaints could seek first contact with the large number of osteopaths who trained as physiotherapists in their basic occuptation within the health care system. Subsequently, the osteopaths would be forced to achieve much higher standards in drawing up reports and diagnosis and this fact leads to the question: Are the Austrian osteopaths prepared for this job?

Following the results of my thesis, I very much value the improvement and deepening of the genuine osteopathic possibilities for diagnosis both in the training of future osteopaths and in the every-day job of pracitising osteopaths, in order to reach this aim.

In this thesis I managed to impressively document an assessment of the actual use of specific osteopathic techniques from the visceral field in the practic work of Austrian osteopaths, verified by numbers.
In order to achieve an inisight on the frequency of use from the two remaining fields of osteopathy, the structural and cranial osteopathy, comparable data for these two areas of osteopathy would have to be collected.

A next question, the question whether the success of osteopathic treatment for patients with specific clinical complaints correlates with the use of exactly defined osteopathic techniques, was not taken into consideration and has be left open to further scientific clarification.

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Annex

Cover letter questionnaire postal (original version / translated version)

Cover letter questionnaire online (original version / translated version)

Explanations for the questionnaire (original version / translated version)

Questionnaire (original version)

Raw Data

Frau / Herr
Max Muster
Musterstraße
5000 Musterdorf

Eugendorf, 30.04.2007

Betreff: Masterthesis an der Donau-Universität Krems

Sehr geehrte/r Fr./ Hr. Muster!

Im Rahmen meiner Masterausbildung an der Donau-Universität Krems bin ich damit beschäftigt, eine Masterthesis zum Thema

„Die Anwendung von visceralen Techniken in der osteopathischen Praxis“

zu verfassen.
Um die dazu notwendigen Daten zu erheben, schicke ich Dir meinen Fragebogen, der 25 Fragen umfasst und in ca. 5-10 Minuten ausgefüllt werden kann.

Ich bitte Dich, ihn zu lesen, auszufüllen und bis spätestens 18.5.2007 an mich zurück zu schicken (frankiertes Kuvert liegt bei). Die Fragebögen sind nicht nummeriert, die erhobenen Daten werden natürlich anonym behandelt.

Da eine aussagekräftige Datenauswertung nur mit Deiner Hilfe zustande kommen kann, bedanke ich mich schon im Voraus sehr herzlich für Deine Bemühungen.

Mit freundlichen Grüßen
Harald Stemeseder

Harald Stemeseder Osteopath
Sonnenweg 9
5301 Eugendorf
Fon: 06225/7798 / Fax: 06225/779820 / e-mail: stemeseder@aon.at

Mrs./Mr.
Sam Sample
Sample Street
5000 Sampleville

Eugendorf, 30.04.2007

<u>Subject: Masterthesis at the Donau-Universität Krems</u>

Dear Mrs./Mr. Muster!

In the course of my master training at the Donau-Universität Krems I am writing a master thesis on the topic of

„The use of visceral techniques in osteopathic practice“

In order to gain the necessary data, I send you my questionnaire, which containes 25 questions and can be filled out in about five to ten minutes.

I would ask you to fill it out and send it back to me until the 18.5.1007 (an envelope with the return postage was added). The questionnaires do not carry numbers and the collected data is made anonymous.

A convincing evaluation of data can only be achieved with your help and therefore I would like to thank you for your effort.

Yours sincerely,
Harald Stemeseder

Harald Stemeseder Osteopath
Sonnenweg 9
5301 Eugendorf
Fon: 06225/7798 / Fax: 06225/779820 / e-mail: stemeseder@aon.at

Fragebogen zum Thema
"Die Anwendung von Visceralen Techniken in der osteopathischen Praxis"

Liebe Kollegin, lieber Kollege!

Ich bin im Rahmen meiner Masterausbildung der Osteopathie an der Donauuniversität Krems mit der Masterthese zu dem oben genannten Thema beschäftigt.

Um die dazu notwendigen Daten zu erheben, habe ich einen Fragebogen erarbeitet, den Sie unter http://fragebogen-stemeseder.at.tt/ abrufen können, er umfasst 25 Fragen und kann in ca. 5 Minuten ausgefüllt werden kann.

Ich bitte Sie, ihn zu lesen, auszufüllen und abzuschicken. Die Fragebögen sind nicht nummeriert, die erhobenen Daten werden natürlich anonym behandelt.

Wenn Sie den Fragebogen lieber in Papierform ausfüllen möchten, dann bitte ich Sie um eine kurze Mitteilung (stemeseder@aon.at, oder unter 06225/7798) ich schicke ihn gerne auch brieflich zu.

Da eine aussagekräftige Datenauswertung nur mit Ihrer Hilfe zustande kommen kann, bedanke ich mich schon im Voraus sehr herzlich für Ihre Bemühungen.

Mit freundlichen Grüßen

Harald Stemeseder

Nochmal der Link zur Umfrage: http://fragebogen-stemeseder.at.tt/

Weitergeleitet von:
Wiener Schule für Osteopathie
ZVR: 686953754
Frimbergergasse 6
A-1130 Wien, Austria

Wir von der WSO haben keine Adressen weitergegeben, bieten Harald Stemeseder aber gerne die Möglichkeit, Euch alle anzusprechen, weil das die Qualität seiner Master-Thesis erhöhen wird und damit der gesamten Osteopathie zugute kommt.

Questionnaire on the topic
"The use of visceral techniques in osteopathic practice"

Dear colleague!

In the course of my master training at the Donauuniversität Krems I am currently writing my master thesis on the topic mentioned above.

In order to gain the necessary data, I worked out a questionnaire which you can find here http://fragebogen-stemeseder.at.tt/, it contains 25 questions and can be filled out in about five minutes

I would like to ask you to read it, fill it out and send it. The questionnaires do not carry numbers, the collected data is made anonymous.

If you would like to fill out the questionnaire on paper, please send a short message to (stemeseder@aon.at, or call 06225/7798), and I'd be happy to send it by post.

A convincing evalutation of data can only be achieved with your help, therefore I would like to thank you for your effort.

Yours sincerely,

Harald Stemeseder

Once again the link fort he questionnaire http://fragebogen-stemeseder.at.tt/

Forwarded by:
Wiener Schule für Osteopathie
ZVR: 686953754
Frimbergergasse 6
A-1130 Wien, Austria

The WSO did not pass on data, but we offer Harald Stemeseder the chance to contact you all, because this will raise the quality of this master thesis and thus is to the advantage of osteopathy in general.

Erklärungen zum Ausfüllen des Fragebogens:

Bitte die entsprechenden Antworten in den vorgegebenen Antwortfeldern mit „X" kennzeichnen oder entsprechend ausfüllen.

Zu Frage 4: **„Abschlussjahr der osteopathischen Ausbildung"**

- es gilt das Jahr, der letzten komissionellen Prüfung in der Ausbildung

---

Zu Frage 7: **„Welche Beschwerden geben Ihre Patienten als Grund an, Ihre osteopathische Praxis aufzusuchen?"**

- die Summe der Einträge sollte 100% ergeben

Zu Frage 11: **„Ich verwende viscerale Techniken in der Befunderhebung"**

„bei Patienten mit speziellen visceralen Problemen"

- Also **nur** bei Patienten die viscerale Beschwerden in der Anamnese angeben.

„bei jedem Patienten"

- Also auch bei Patienten die **keine** viscerale Beschwerden in der Anamnese angeben.

Zu Frage 19: **„Als OsteopathIn verwende ich ausschließlich eigene osteopathische Techniken, die nicht mehr dem strukturellen, craniellen oder visceralen Bereich zuzuordnen sind"**

- wenn sie dieser Aussage zustimmen, sind Sie hier bereits fertig.

- wenn nicht, bitte auf Seite 2 weiter machen.

Zu Frage 20: **„Ich verwende viscerale Techniken in der Behandlung"**

„bei Patienten mit speziellen visceralen Problemen?"

- Also **nur** bei Patienten die viscerale Beschwerden in der Anamnese angeben.

„bei Patienten mit visceralen Befunden?"

- Also bei Patienten, die zwar **keine** viscerale Beschwerden angeben,
bei denen Sie aber in Ihrer Befundung viscerale Dysfunktionen finden.

Bei eventuellen Unklarheiten stehe ich für Fragen gerne telefonisch oder per e-mail zu Verfügung!

Harald Stemeseder Osteopath
Sonnenweg 9
5301 Eugendorf
Fon: 06225/7798 / Fax: 06225/779820 / e-mail: stemeseder@aon.at

Explanations for filling out the questionnaire:

Please mark the prevailing answer with „X“ in the blanks for the answers or fill in the corresponding answer:

Ad question 4: **„Year of graduation from osteopathic training“**

- valid is the year of training when the last exam conducted by a committee was passed.

Ad question 7:**„Which complaints do your patients name as the reason why they seek osteopathic treatment?”**

- the sum of the answers should amount to 100%

Ad question 11: **„I use viseral techniques for anamnesis“**

„for patients with specific visceral problems“

- Meaning **only** for patients who speak about visceral complaints during anamnesis.

„for every patient“

- For patients who do **not** cite visceral complaints during anamnesis.

Ad question 19: **„As an osteopath I only use specific osteopathic techniques which can not be assigned to the structural, cranial or visceral field anymore.“**

- If you agree with this statement, you are finished here.
- If you don't, please continue on page 2.

Ad question 20: „**I use visceral techniques for treatment“**

„for patients with specific visceral problems?“

- Meaning **only** for patients who speak about visceral complaints during anamnesis.

„for patients with visceral findings?“

- For patients who do **not** cite visceral complaints during anamnesis,
but where you discover visceral dysfunction in your findings.

In case of any uncertainties, please do not hesitate to contact me via e-mail or telephone.

Harald Stemeseder Osteopath
Sonnenweg 9
5301 Eugendorf
Fon: 06225/7798 / Fax: 06225/779820 / e-mail: stemeseder@aon.at

Raw Data

Abbreviations:

Variable:	Value	Abbreviation
sex	female	f
	male	m
former profession	physiotherapist	PT
	medical doctor	MD
profession	free licenser	free l
	employed	empl
predom	musculoskeletal	m
	visceral	v
	other	o
	neurological	n
anamnesis	patient dependent	pat dep
	self administered questionnaire	s a qu
	standardised questionnaire	st q
check up_visceral technique	visceral problem	visc pr
treatment_visceral	visceral problem	visc pr
	visceral findings	visc f

ID	age	sex	former profession	final year	school	profession	r_musculoskeletal	r_neurological	r_visceral	r_other	predom	anamnesis	visceral dysfunction	each organ	check up_visceral technique	visceral tests general	sotto hall test	percussion	auscultation	inhibition test	test for visceral mobility	test for visceral motility	own osteopathic techniques	treatment_visceral	visceral techniques general	induction	direct techniques	indirect techniques	point balanced	Source
1	51	m	MD	1997	WSO	free l	43,75	25,00	18,75	12,50	m	pat dep	frequ	frequ	each	often	rarely	often	often	often	often	often	no	visc pr	often	often	often	often	rarely	WEB
2	33	f	PT	2005	WSO	free l	60,00	5,00	10,00	25,00	m	s a qu	frequ	frequ	each	frequ	often	frequ	never	often	frequ	frequ	no	visc f	often	often	often	often	often	WEB
3	54	m	PT	2001	other	free l	30,00	20,00	40,00	10,00	v	s a qu	often	often	visc pr	often	rarely	rarely	rarely	often	frequ	often	no	visc f	often	often	frequ	often	often	WEB
4	49	f	PT	1998	WSO	free l	60,00	15,00	15,00	10,00	m	s a qu	frequ	frequ	each	frequ	often	rarely	rarely	often	frequ	frequ	no	visc f	frequ	frequ	frequ	frequ	frequ	WEB
5	28	f	PT	2007	WSO	free l	60,00	15,00	15,00	10,00	m	s a qu	frequ	frequ	each	frequ	frequ	rarely	rarely	frequ	frequ	frequ	no	visc f	frequ	frequ	often	frequ	frequ	WEB
6	44	m	PT	2002	other	free l	64,00	5,00	30,00	1,00	m	s a qu	frequ	frequ	visc pr	often	rarely	rarely	rarely	rarely	often	often	yes							WEB
7	37	m	PT	2001	WSO	free l	35,00	5,00	10,00	50,00	o	s a qu	frequ	frequ	each	often	rarely	frequ	often	often	often	often	no	visc f	often	often	often	often	often	WEB
8	33	m	PT	2008	WSO	empl	70,00	20,00	5,00	5,00	m	s a qu	frequ	rarely	visc pr	rarely	often	rarely	rarely	often	often	rarely	no	visc pr	rarely	rarely	often	often	rarely	WEB
9	43	f	PT	1997	WSO	both	60,00	5,00	15,00	20,00	m	s a qu	frequ	frequ	each	often	rarely	rarely	never	often	frequ	frequ	no	visc f	often	rarely	often	often	often	WEB
10	41	f	PT	2003	WSO	free l	70,00	10,00	10,00	10,00	m	s a qu	frequ	frequ	each	frequ	often	rarely	rarely	rarely	frequ	frequ	no	visc f	frequ	frequ	frequ	frequ	frequ	WEB
11	33	f	PT	2003	WSO	free l	70,00	5,00	10,00	15,00	m	s a qu	frequ	often	each	frequ	rarely	rarely	rarely	often	frequ	frequ	no	visc f	frequ	often	often	often	frequ	WEB
12	51	m	MD	2002	WSO	free l	70,80	8,85	17,70	2,65	m	pat dep	rarely	rarely	each	rarely	never	never	never	rarely	often	often	no	visc pr	rarely	never	often	rarely	often	WEB
13	40	m	PT	2007	WSO	free l	50,00	10,00	20,00	20,00	m	s a qu	frequ	often	each	often	often	often	rarely	frequ	frequ	often	no	visc pr	frequ	rarely	frequ	rarely	rarely	WEB
14	33	f	PT	2003	WSO	free l	45,00	5,00	10,00	40,00	m	s a qu	frequ	frequ	each	frequ	rarely	rarely	rarely	frequ	frequ	frequ	no							WEB
15	33	f	PT	2003	WSO	free l	45,00	5,00	10,00	40,00	m	s a qu	frequ	frequ	each	frequ	rarely	rarely	rarely	frequ	frequ	frequ	no							WEB
16	46	f	PT	2007	WSO	free l	80,00	5,00	5,00	10,00	m	s a qu	frequ	rarely	each	frequ	rarely	never	never	rarely	frequ	often	no	visc f	frequ	often	often	often	rarely	WEB
17	45	f	PT	2000	WSO	free l	50,00	10,00	20,00	20,00	m	s a qu	frequ	often	each	often	often	frequ	rarely	often	often	often	no	visc f	frequ	rarely	often	rarely	rarely	WEB
18	50	f	PT	1998	WSO	free l	75,00	15,00	5,00	5,00	m	s a qu	frequ	frequ	each	often	rarely	never	never	often	rarely	often	no	visc f	often	often	rarely	rarely	frequ	WEB
19	31	f	PT	2005	WSO	empl	90,00	0,00	5,00	5,00	m	s a qu	often	often	each	often	never	never	never	often	frequ	frequ	no	visc f	frequ	frequ	often	often	frequ	WEB
20	46	m	PT	1998	other	free l	30,00	10,00	30,00	30,00	v	s a qu	frequ	frequ	each	frequ	never	often	often	often	frequ	never	no	visc f	frequ	rarely	frequ	often	never	WEB
21	32	f	PT	2006	WSO	both	40,00	40,00	10,00	10,00	m	s a qu	frequ	often	each	rarely	rarely	never	never	frequ	rarely	frequ	no	visc pr	rarely	frequ	rarely	frequ	frequ	WEB
22	35	f	PT	2004	WSO	free l	42,86	19,05	23,81	14,29	m	s a qu	frequ	frequ	each	frequ	frequ	frequ	frequ	frequ	frequ	frequ	no	visc f	frequ	frequ	frequ	frequ	frequ	WEB
23	45	f	PT	2005	WSO	both	70,00	5,00	5,00	20,00	m	pat dep	often	often	visc pr	rarely	often	never	never	rarely	often	often	no	visc f	often	often	often	often	often	WEB
24	37	m	PT	2003	WSO	free l	75,00	5,00	10,00	10,00	m	s a qu	frequ	frequ	each	frequ	rarely	rarely	rarely	frequ	frequ	frequ	no	visc f	frequ	frequ	frequ	frequ	frequ	WEB

25	30	f	MD	2007	WSO	free l	48,48	3,03	30,30	18,18	m	s a qu	often	rarely	visc pr	rarely	never	rarely	rarely	often	often	often	no	visc pr	often	frequ	rarely	often	rarely	WEB
26	46	m	PT	1997	other	free l	80,00	5,00	10,00	5,00	m	pat dep	frequ	never	visc pr	rarely	rarely	often	never	rarely	often	frequ	no	visc pr	rarely	rarely	often	frequ	frequ	WEB
27	47	m		2004	other	free l	69,31	19,80	9,90	0,99	m	pat dep	often	rarely	each	often	often	rarely	rarely	often	frequ	frequ	no	visc f	often	often	often	rarely	often	WEB
28	38	m	MD	2001	WSO	free l	70,00	5,00	20,00	5,00	m	s a qu	frequ	rarely	each	frequ	never	rarely	rarely	rarely	frequ	frequ	no	visc f	frequ	often	frequ	frequ	often	WEB
29	38	f	PT	2005	WSO	free l	70,00	0,00	20,00	10,00	m	s a qu	frequ	frequ	each	often	rarely	never	never	rarely	often	often	no	visc f	often	often	often	rarely	rarely	WEB
30	36	m	PT	2008	WSO	free l	50,00	30,00	10,00	10,00	m	s a qu	frequ	frequ	visc pr	frequ	frequ	often	rarely	frequ	frequ	frequ	no	visc f	frequ	often	often	often	rarely	WEB
31	32	f	PT	2007	WSO	free l	60,00	30,00	8,00	2,00	m	s a qu	frequ	never	visc pr	frequ	often	frequ	rarely	often	frequ	frequ	no	visc pr	frequ	rarely	frequ	frequ	often	WEB
32	35	m	PT	2007	WSO	free l	85,00	5,00	5,00	5,00	m	pat dep	frequ	rarely	each	often	rarely	rarely	rarely	rarely	frequ	often	no	visc pr	often	often	often	frequ	rarely	WEB
33	40	f	PT	2001	WSO	free l	50,00	5,00	20,00	25,00	m	s a qu	frequ	often	each	frequ	often	rarely	never	frequ	frequ	frequ	no	visc f	frequ	often	often	often	frequ	WEB
34	52	m	MD	1999	WSO	free l	20,00	20,00	30,00	30,00	v	s a qu	frequ	frequ	each	frequ	rarely	frequ	frequ	frequ	often	often	yes							WEB
35	49	f	PT	2000	WSO	free l	60,00	0,00	10,00	30,00	m	pat dep	frequ	frequ	visc pr	often	rarely	rarely	never	rarely	frequ	frequ	no	visc pr	often	rarely	often	rarely	frequ	WEB
36	43	f	PT	2002	WSO	free l	50,00	20,00	20,00	10,00	m	s a qu	frequ	frequ	visc pr	often	frequ	often	rarely	frequ	frequ	frequ	no	visc f	frequ	often	frequ	often	often	WEB
37	35	f	PT	2003	WSO	free l	60,00	20,00	10,00	10,00	m	st q	frequ	frequ	each	frequ	often	often	rarely	often	frequ	frequ	no	visc f	frequ	often	often	often	frequ	WEB
38	32	m	MD	2008	WSO	both	90,00	5,00	0,00	5,00	m	pat dep	rarely	never	visc pr	rarely	never	never	never	never	rarely	never	no	visc pr	rarely	never	rarely	rarely	never	WEB
39	41	m	PT	2002	WSO	free l	60,00	35,00	5,00	0,00	m	s a qu	frequ	frequ	visc pr	rarely	often	often	often	rarely	often	often	no	visc pr	often	often	often	rarely	rarely	WEB
40	43	f	PT	1997	WSO	empl	50,00	10,00	20,00	20,00	m	s a qu	frequ	frequ	each	often	often	rarely	never	frequ	often	frequ	no	visc f	often	often	rarely	frequ	frequ	WEB
41	43	f	PT	1997	WSO	empl	50,00	10,00	20,00	20,00	m	s a qu	frequ	frequ	each	frequ	often	rarely	never	frequ	often	frequ	no	visc f	frequ	frequ	rarely	frequ	frequ	WEB
42	38	f	PT	2002	WSO	free l	45,00	20,00	5,00	30,00	m	s a qu	frequ	rarely	each	often	rarely	never	never	often	often	often	no	visc f	rarely	often	rarely	often	often	WEB
43	46	f	PT	2001	WSO	free l	50,00	30,00	15,00	5,00	m	s a qu	frequ	rarely	visc pr	often	frequ	rarely	never	often	frequ	frequ	no	visc pr	often	frequ	often	often	frequ	WEB
44	43	f	MD	2006	WSO	both	50,00	10,00	20,00	20,00	m	pat dep	often	rarely	each	often	never	never	rarely	never	frequ	frequ	no	visc f	often	rarely	frequ	frequ	frequ	WEB
45	47	f	MD	1997	WSO	free l	98,00	0,00	1,00	1,00	m	pat dep	frequ	often	each	frequ	rarely	rarely	rarely	frequ	frequ	frequ	no	visc f	frequ	frequ	often	often	frequ	WEB
46	43	f	MD	2000	WSO	free l	70,00	5,00	20,00	5,00	m	s a qu	frequ	frequ	visc pr	often	rarely	often	often	often	often	often	no	visc pr	often	often	often	rarely	rarely	WEB
47	45	f	PT	2005	WSO	free l	60,00	5,00	5,00	30,00	m	s a qu	frequ	rarely	each	often	frequ	rarely	rarely	often	often	often	no	visc pr	often	often	often	rarely	rarely	WEB
48	37	f	PT	2000	WSO	free l	80,00	10,00	1,00	9,00	m	pat dep	often	never	visc pr	rarely	rarely	never	never	never	often	rarely	no	visc pr	rarely	rarely	rarely	never	never	WEB
49	52	f	PT	2000	WSO	free l	60,00	5,00	25,00	10,00	m	s a qu	often	often	visc pr	rarely	rarely	rarely	never	often	often	frequ	no	visc f	rarely	often	often	often	frequ	WEB
50	32	m	MD	2007	WSO	free l	80,00	15,00	5,00	0,00	m	s a qu	frequ	frequ	each	often	often	rarely	often	often	often	often	no	visc f	frequ	often	often	rarely	rarely	WEB
51	43	f	PT	2001	WSO	free l	30,00	20,00	30,00	20,00	v	s a qu	frequ	frequ	each	frequ	rarely	often	rarely	rarely	often	frequ	no	visc f	frequ	frequ	often	often	frequ	WEB
52	30	f	PT	2007	WSO	empl	70,00	15,00	5,00	10,00	m	pat dep	frequ	often	each	often	never	rarely	never	often	often	often	no	visc pr	often	often	often	rarely	rarely	WEB
53	39	f	PT	2002	WSO	both	47,62	28,57	14,29	9,52	m	s a qu	frequ	rarely	each	often	often	rarely	rarely	often	often	often	no	visc pr	often	often	often	often	often	WEB
54	30	m	PT	2007	WSO	free l	85,00	0,00	10,00	5,00	m	s a qu	frequ	rarely	visc pr	rarely	often	never	never	rarely	often	rarely	no	visc pr	rarely	frequ	often	rarely	rarely	WEB
55	45	f	PT	1998	WSO	free l	10,00	20,00	10,00	60,00	o	st q	rarely	rarely	visc pr	rarely	never	never	never	never	never	never	no							WEB
56	45	f	PT	1998	WSO	free l	10,00	20,00	10,00	60,00	o	st q	rarely	rarely	visc pr	rarely	never	never	never	never	never	never	yes							WEB
57	49	m	MD	2003	WSO	free l	60,00	5,00	20,00	15,00	m	s a qu	often	rarely	each	often	often	rarely	rarely	rarely	frequ	frequ	no	visc pr	often	often	often	often	frequ	WEB
58	39	f	PT	2000	WSO	both	50,00	10,00	20,00	20,00	m	s a qu	frequ	frequ	visc pr	often	rarely	never	never	often	often	often	no	visc pr	often	rarely	often	rarely	frequ	WEB
59	46	m	PT	1999	WSO	free l	80,00	10,00	5,00	5,00	m	s a qu	frequ	frequ	each	frequ	often	often	often	frequ	often	rarely	no	visc f	often	often	often	often	often	WEB

60	33	m	PT	2007	WSO	free l	45,00	25,00	15,00	15,00	m	s a qu	frequ	rarely	each	often	rarely	never	never	rarely	often	often	no	visc f	often	rarely	often	rarely	often	WEB
61	41	m	PT	2005	DOK	free l	40,00	20,00	10,00	30,00	m	pat dep	often	often	visc pr	often	often	rarely	never	often	often	rarely	no	visc f	often	rarely	often	rarely	never	WEB
62	36	m	PT	2004	WSO	free l	65,00	10,00	10,00	15,00	m	pat dep	frequ	frequ	each	frequ	frequ	often	rarely	rarely	frequ	frequ	no	visc pr	often	frequ	frequ	often	often	WEB
63	42	f	PT	2005	WSO	both	60,00	25,00	5,00	10,00	m	s a qu	frequ	often	each	often	often	rarely	rarely	frequ	frequ	frequ	no	visc pr	often	often	often	often	frequ	WEB
64	42	m	PT	1997	other	free l	45,16	3,23	32,26	19,35	m	s a qu	frequ	frequ	each	frequ	never	rarely	rarely	often	frequ	often	no	visc f	frequ	frequ	frequ	frequ	rarely	WEB
65	39	f	PT	1997	WSO	free l	30,00	15,00	50,00	5,00	v	st q	frequ	often	each	often	rarely	rarely	rarely	rarely	often	often	yes							WEB
66	33	f	MD	2008	WSO	empl	95,00	3,00	2,00	0,00	m	pat dep	often	rarely	each	often	rarely	rarely	rarely	rarely	often	often	no	visc f	often	rarely	often	rarely	often	WEB
67	33	f	PT	2004	WSO	free l	80,00	5,00	10,00	5,00	m	s a qu	frequ	frequ	each	frequ	rarely	rarely	rarely	frequ	frequ	frequ	no	visc pr	frequ	frequ	frequ	frequ	frequ	WEB
68	41	m	PT	2003	WSO	free l	70,00	15,00	5,00	10,00	m	s a qu	frequ	rarely	each	frequ	rarely	rarely	rarely	frequ	frequ	frequ	no	visc f	often	frequ	often	rarely	frequ	WEB
69	45	m	PT	2003	WSO	free l	18,92	27,03	27,03	27,03	v	s a qu	frequ	often	visc pr	often	rarely	never	rarely	rarely	often	rarely	no	visc f	rarely	rarely	rarely	often	often	WEB
70	33	f	PT	2005	WSO	free l	60,00	15,00	15,00	10,00	m	s a qu	frequ	often	each	often	rarely	rarely	never	often	often	rarely	no	visc f	often	frequ	rarely	often	rarely	WEB
71	43	m	MD	2002	WSO	free l	20,00	10,00	20,00	50,00	o	s a qu	frequ	rarely	visc pr	often	rarely	often	often	rarely	rarely	often	no	visc f	often	often	often	often	often	WEB
72	39	f	PT	2007	WSO	free l	70,00	20,00	5,00	5,00	m	s a qu	frequ	frequ	each	frequ	often	rarely	rarely	often	frequ	frequ	no	visc f	frequ	often	frequ	often	never	WEB
73	40	m	PT	2000	WSO	free l	70,00	20,00	10,00	0,00	m	pat dep	frequ	rarely	each	frequ	often	rarely	rarely	rarely	often	frequ	no	visc pr	frequ	frequ	frequ	rarely	often	WEB
74	46	m	MD	1999	WSO	free l	70,00	15,00	5,00	10,00	m	s a qu	frequ	often	visc pr	rarely	frequ	rarely	rarely	never	often	frequ	no	visc pr	often	often	rarely	frequ	frequ	WEB
75	32	m	MD	2007	WSO	free l	20,00	10,00	40,00	30,00	v	s a qu	frequ	frequ	each	frequ	frequ	rarely	often	often	frequ	frequ	no	visc f	frequ	often	rarely	often	often	WEB
76	33	m	PT	2007	WSO	free l	65,00	10,00	20,00	5,00	m	s a qu	frequ	frequ	each	often	rarely	rarely	rarely	often	often	often	no	visc f	frequ	frequ	often	often	often	WEB
77	35	f	PT	2001	WSO	free l	70,00	5,00	15,00	10,00	m	s a qu	frequ	frequ	each	frequ	often	often	rarely	rarely	often	frequ	no	visc f	often	often	rarely	often	often	WEB
78	49	m	PT	1998	WSO	free l	50,00	15,00	15,00	20,00	m	s a qu	frequ	often	each	frequ	often	often	rarely	often	often	frequ	no	visc f	frequ	frequ	often	frequ	often	WEB
79	40	f	PT	1997	WSO	free l	60,00	10,00	5,00	25,00	m	s a qu	frequ	frequ	each	frequ	often	often	often	rarely	frequ	frequ	no	visc f	frequ	frequ	often	often	frequ	WEB
80	32	f	PT	2007	WSO	free l	80,00	5,00	5,00	10,00	m	s a qu	frequ	often	visc pr	frequ	rarely	never	never	rarely	frequ	frequ	no	visc f	often	rarely	often	rarely	never	Letter
81	39	m	PT	1998	DOK	free l	70,00	20,00	10,00	0,00	m	pat dep	frequ	often	each	frequ	never	rarely	rarely	rarely	frequ	frequ	no	visc pr	frequ	frequ	frequ	frequ	frequ	Letter
82	43	f	PT	2003	WSO	free l	50,00	5,00	25,00	20,00	m	pat dep	frequ	frequ	each	frequ	frequ	rarely	never	often	often	frequ	no	visc f	often	often	often	rarely	frequ	Letter
83	36	m	PT	2005	DOK	free l	70,00	5,00	10,00	15,00	m	s a qu	frequ	often	each	often		rarely	never	often	often	often	no	always	frequ	often	often	often	often	Letter
84	30	m	PT	2006	WSO	free l	60,00	5,00	15,00	20,00	m	s a qu	often	often	each	often	rarely	never	never	rarely	frequ	frequ	no	visc f	frequ	often	frequ	rarely	often	Letter
85	35	f	PT	2000	WSO	free l	90,00	0,00	5,00	5,00	m	s a qu	frequ	rarely	each	often	frequ	never	never	never	often	rarely	no	visc f	often	rarely	often	rarely	never	Letter
86	35	f	PT	2000	WSO	free l	30,00	10,00	10,00	50,00	o	pat dep	frequ	often	each	often	rarely	rarely	rarely	frequ	often	frequ	yes	visc f	often	frequ	often	often	frequ	Letter
87	36	m	PT	2001	WSO	free l	59,00	30,00	10,00	1,00	m	pat dep	frequ	often	each	often	rarely	rarely	rarely	rarely	frequ	often	no	visc pr	often	rarely	often	rarely	rarely	Letter
88	36	f	PT	2002	WSO	free l	90,00	5,00	5,00	0,00	m	s a qu		frequ	visc pr	rarely	rarely	rarely	never	rarely	rarely	often	no	visc f	rarely	never	never	often	often	Letter
89	33	m	PT	2006	WSO	free l	50,00	5,00	10,00	35,00	m	s a qu	rarely	frequ	visc pr	often	rarely	rarely	rarely	rarely	often	rarely	no	visc f	often	often	frequ	rarely	rarely	Letter
90	35	m	PT	1999	WSO	free l	70,00	10,00	10,00	10,00	m	pat dep	frequ	frequ	each	frequ	rarely	rarely	rarely	rarely	frequ	frequ	no	always	frequ	often	often	often	often	Letter
91	42	m	PT	2006	WSO	free l	70,00	0,00	30,00	0,00	m	s a qu	frequ	frequ	each	frequ	rarely	often	rarely	rarely	frequ	frequ	no	visc f	often	rarely	rarely	frequ	frequ	Letter
92	.	f	PT	1998	WSO	free l	41,67	41,67	8,33	8,33	m	pat dep	frequ	frequ	each	frequ	frequ	never	never	never	frequ	frequ	no	always	frequ	frequ	frequ	frequ	frequ	Letter
93	42	m	PT	2000	WSO	free l	40,00	10,00	20,00	30,00	m	s a qu	frequ	often	each	often	rarely	rarely	rarely	rarely	often	often	no	visc f	often		often	often	often	Letter
94	35	m	PT	2005	DOK	free l	70,00	10,00	0,00	20,00	m	s a qu	frequ	often	each	frequ	rarely	rarely	rarely	often	frequ	frequ	no	visc f	frequ	often	often	frequ	frequ	Letter

95	38	m	PT	2005	WSO	free l	60,00	30,00	10,00	0,00	m	s a qu	frequ	rarely	each	often	rarely	rarely	rarely	rarely	often	rarely		visc f	often	often	often	rarely	often	Letter
96	46	m	MD	1999	WSO	free l	60,00	20,00	10,00	10,00	m	s a qu	frequ	often	each	often	rarely	rarely	rarely	rarely	often	often	no	always	often	rarely	often	rarely	rarely	Letter
97	38	m	PT	1999	WSO	free l	70,00	10,00	5,00	15,00	m	pat dep	often	never	each	often	never	never	never	never	often	often	no	visc f	often	often	often	often	rarely	Letter
98	39	f	PT	2006	WSO	free l	65,00	15,00	15,00	5,00	m	s a qu	frequ	often	each	rarely	rarely	rarely	never	often	frequ	often	no	visc f	frequ	frequ	often	often	often	Letter
99	40	m	PT	2000	WSO	free l	60,00	20,00	10,00	10,00	m	s a qu	frequ	rarely	each	often	rarely	rarely	rarely	frequ	often	often	no	visc f	often	rarely	often	rarely	often	Letter
100	39	m	PT	2000	DOK	free l	60,00	20,00	10,00	10,00	m	pat dep	frequ	often	each	frequ		often	often	frequ	frequ	frequ	no	always	frequ	frequ	frequ	frequ	frequ	Letter
101	40	f	PT	2006	WSO	free l	80,00	10,00	10,00	0,00	m	st q	frequ	frequ	each	frequ	often	rarely	never	often	often	frequ	no	visc f	often	frequ	often	often	often	Letter
102	46	f	PT	2000	WSO	free l	80,00	5,00	5,00	10,00	m	pat dep	frequ	frequ	visc pr	rarely	rarely	never	never	rarely	rarely	rarely	yes							Letter
103	46	m	PT	2001	WSO	free l	70,00	10,00	10,00	10,00	m	pat dep	often	rarely	each	rarely	never	never	never	never	often	often	no	visc f	rarely	rarely	often	often	often	Letter
104	41	m	MD	2004	WSO	free l	50,00	18,00	17,00	15,00	m	s a qu	frequ	often	each	often	rarely	rarely	rarely	rarely	frequ	frequ	no	visc f	often	rarely	frequ	rarely	often	Letter
105	41	f	PT	1999	WSO	free l	90,00	3,00	3,00	4,00	m	s a qu	frequ	often	each	rarely	often	rarely	rarely	rarely	often	often	no	visc pr	often	often	rarely	rarely	often	Letter
106	37	m	PT	2005	DOK	free l	75,00	10,00	1,00	14,00	m	s a qu	frequ	frequ	visc pr	frequ	never	rarely	rarely	rarely	frequ	often	no	visc pr	often	rarely	often	often	often	Letter
107	56	f	PT	2004	WSO	free l	80,00	0,00	10,00	10,00	m	pat dep	frequ	often	each	often	frequ	often	rarely		often	often	no	visc pr	often	often	often	rarely	rarely	Letter
108	29	f	PT	2005	DOK	free l	30,00	50,00	10,00	10,00	n	s a qu	frequ	rarely	each	often	never	rarely	rarely	often	often	often	no	visc f	frequ	rarely	often	rarely	rarely	Letter
109	43	f	PT	1998	WSO	free l	50,00	5,00	30,00	15,00	m	pat dep	frequ	frequ	each	frequ	rarely	often	never	rarely	frequ	frequ	no	always	frequ	often	rarely	often	frequ	Letter
110	41	m	PT	2002	DOK	free l	95,00	5,00	0,00	0,00	m	s a qu	rarely	never	visc pr	rarely	never	rarely	never	rarely	often	rarely	no	visc f	rarely	rarely	rarely	rarely	rarely	Letter
111	38	m	PT	2000	DOK	free l	67,86	21,43	7,14	3,57	m	pat dep	frequ	rarely	each	often	rarely	rarely	rarely	often	frequ	often	no	visc f	often	rarely	often	often	often	Letter
112	45	m	PT	2001	DOK	free l	70,00	10,00	10,00	10,00	m	s a qu	frequ	rarely	visc pr	often	never	never	never	never	frequ	rarely	no	visc f	frequ	never	frequ	often	rarely	WEB
113	46	m		1997	WSO	free l	65,00	5,00	25,00	5,00	m	pat dep	often	often	each	often	often	never	never	rarely	often	often	no	visc f	often	often	often	rarely	rarely	WEB
114	36	f	PT	2005	other	empl	60,00	10,00	10,00	20,00	m	s a qu	frequ	often	visc pr	often	often	rarely	rarely	frequ	often	often	no	visc pr	often	often	often	often	frequ	WEB