
THE APPLICATION OF OSTEOPATHY AND MANUAL THERAPY IN ONCOLOGY AND IN PALLIATIVE CARE

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Summary

Neoplastic diseases are the second most frequent cause of death in Poland (after diseases of the circulatory system). Oncology is a collective specialization in our country. The physiotherapist as a member of a multidisciplinary team has a chance to participate actively in medical actions at the beginning and at the end of the patient's life. In patients at every disease stage, who are treated curatively and symptomatically, a complicated clinical image is strengthened by different symptoms: pain, dyspnoea, constipation, tiredness, and complications from long immobilization, myofascial pain and lymphoedema. These problems are directly connected with soft tissue injury (healthy tissue or organ) and functional disorders resulting from the proliferative process and applied treatment methods (surgery, chemotherapy, radiotherapy, etc.).

All these elements contribute to decreased quality of life of oncological patients and patients at advanced disease stages under palliative care. Timely rehabilitation helps the patient to return to functional independence and improves quality of life. So far there has been a lack of theoretical discussion about the use of manual medicine and osteopathy in oncology, although the importance of rehabilitation of patients with neoplastic disease is commonly understood and accepted. Osteopathic manual therapy is not about to replace specialized treatment. Its main aims are diagnosis, prophylaxis and therapy of reversible functional disorders (somatic dysfunctions) in the locomotor system. Especially important is therapy of areas not covered by the disease, but involved because of functional continuity of the movement apparatus. The therapist's actions are non-invasive and concentrate mostly on diagnosis and treatment. Using gentle, safe palpation examination techniques, myofascial relaxation, positioning relaxation, restoration of the physiological muscular work standard, and trigger point therapy, a physiotherapist can perform non-invasive examination. It more precisely locates pain, its source and connections, or even allows treatment of neuro-musculoskeletal disorders. Simultaneously it takes into consideration the influence of visceral, psychosomatic and environmental factors.

Key words: osteopathy, palliative care, manual therapy, cancer, oncology, fascia, mastectomy, head and neck cancer, fatigue, constipation, lymphoedema.

A significant growth in the number of patients suffering from cancer is currently observed. They comprise several hundred oncological units with different symptomatology, clinical process, prognosis and type of treatment. The treatment method depends on the stage of progression. The less progression is observed, the more sparing the treatment that can be administered. When the tumour becomes more advanced, the treatment becomes more aggressive. It leaves permanent outcomes in regions which were not covered by the disease [1].

In patients at every stage of neoplastic disease, treated curatively and symptomatically, somatic symptoms have very often been observed. Those symptoms have taken different forms: pain, dyspnoea, constipation, tiredness, complications from long immobilization, myofascial pain, mobility restriction, lymphatic stasis. All these elements make a significant contribution to the decrease in life quality of oncological patients and those who are under palliative care. These problems are very often connected with soft tissue damage (a healthy tissue or an organ), and their functional disturbance, occurring as a result of the proliferative process or treatment method (surgery, chemotherapy, radiotherapy). Applied treatment methods and, connected with them, different types of complications and functional disturbances of specific systems and organs show two main aims of medical rehabilitation. The first is prevention, and the second is the treatment of complications [1].

The importance of rehabilitation of patients treated for tumours is commonly understood and accepted. Activating patients to undertake increased physical effort and recommendations to do kinesiotherapy, supported with massage and where necessary with physical procedures, are commonly used and implemented in specialized medical institutions. There have been no publications of reports or theoretical discussions about using some elements of manual medicine in oncology so far. It seems that there is a global belief that this type of therapy can be dangerous because of manipulation. Doctor's opinion in this case is commonly known. Manual therapy done by non-specialists can cause potentially dangerous results. Social opinion says loudly that manual therapy is dangerous and quietly that it can be effective. Innovative in oncology is osteopathy, which finds a place of disease focus – the cause of disturbance of proper harmony of body tension [2]. This is a completely new, non-traditional concept, perceived to be slightly magical. "Techniques are commonly hard to understand and accept in other manual therapy and rehabilitation systems." Generally in contrast to other European countries (UK, Belgium, France) osteopathy is an unknown and uncommon form of medical care in our country [2].

Without doubt it is hard to find a specific indication to use this type of treatment when considering an oncological patient whose condition is gravely threatened.

The aim of the work is to present a few proposals of selected osteopathic techniques and manual therapy used in oncology and palliative care in some oncological centres in Poland. It was prepared on the basis of the author's experience, in full cooperation with doctors and under the control of a medical team. It is very important to note that manual therapy or osteopathy is not only manipulation, but is a whole system of soft and safe treatment, applied with the patients' comfort. These methods have numerous possibilities to use new techniques, which should not be considered as "undoable" only because they are new and unknown. The proposals described below concern problems which are rarely described in the literature. Physiotherapy of patients with head and neck tumours is not common and automatically administered, although it is known. More common is the rehabilitation after breast and larynx cancer.

Also, using the osteopathic manual myofascial techniques in woman after mastectomy is rarely described. We can find a similar situation in patients treated with palliative care. Many of them have problems with basic everyday functions, because of unrecognized rehabilitation problems. The main reason for this situation is a lack of knowledge about possibilities and fear of effort and tiredness, which intensifies every day.

The below-described actions of manual therapy and selected elements of osteopathy can be used during active curative treatment and in order to ease symptoms and improve patients' quality of life – the main assumption of the concept of work with patients at the end of life, applied as palliative medicine.

The aim of manual therapy in treatment of oncological patients is not to replace specialized treatment. It was created not as a "third way" or alternative to medical treatment, and it does not change its main character. It is a medical field – medical rehabilitation – whose aims should be achieved with precise manual procedures.

Its main aim is diagnosis, therapy and prophylaxis of reversible functional disorders (somatic dysfunctions) in movement organ systems, especially in areas which are not covered by the disease, but are involved because of functional continuity of the movement apparatus. Moreover, all the areas covered by the hyperplastic process and afflicted with disease and treatment effects can be influenced by therapy thanks to indirect work. The indirect work can be administered actively and safely in regions significantly distant from threatened regions. The basis of the concept is to properly understand the specific human body layers and common dependencies between structures in the aspect of their biological, physiological and biomechanical activity. As a result we gain not only a concept based on muscle and the bony-ligamentous skeleton, but also a new direction for planning and administering therapy to the oncological patient. The concept of the body as a dynamic structure has long existed, but the possibility of active work (manual lymphatic drain, manual muscle-nerve therapy) or static work (kinesiology taping) on different selected parts of a body region or larger body part has been propagated only recently, especially when taking into consideration the main directions of physiotherapy development in the field of oncological rehabilitation.

The therapeutic activity is a form of non-invasive actions and it concentrates on the diagnostic and treatment procedure. Using palpation examination and myofascial relaxation, positioning relaxation, restoration of the physiological muscular work standard, and trigger point therapy, the physiotherapist can perform non-invasive examination. It allows precise location of pain, its source and connections, and furthermore it helps to administer relaxation or to treat the neuro-musculoskeletal system disorder considering the influence of psychosomatic, visceral and the environment. The main element is diagnosis:

- Functional stereotype disorder (motor, posture, respiratory),
- Muscle tension balance disorder,
- Soft tissue functional disorder.

Supplementing the manual treatment is a targeted re-educational kinesiotherapy and specific autotherapy of: myofascial releasing relaxation, mobilization and re-education of functional stereotypes [3]. These tools bring improvement of the patient's condition in a shorter time and with smaller effort from the patient. This gains specific importance in the situation of a patient in an advanced stage of disease and ipso facto the group of patients who can be qualified for work with manual techniques for soft tissue becomes very large.

The patient treated curatively (oncological patient)

The spectrum of possibilities is very wide. Patients who are surprised by the calm character of the work are very keen on exercises. They find it a gentle form of massage with an element of strength requiring exercises.

While waiting for the operation the therapist can administer some relaxation procedures for the whole nervous system without stimulation (relaxation techniques for the mandible-hyoid zone, foot zone, and cerebral-sacral techniques).

Work with scars using fascial techniques should be introduced after operations. Improvement techniques (breathing techniques, work with ribs, diaphragm, release of superior aperture of the thorax) allow one to administer gentle activation of the patient and faster tilting to erect position. Simultaneously they constitute an element of prophylaxis for respiratory system complications. In stasis and oedema resulting from respiratory tract damage (lymph node resection) it is recommended to work with the lymphatic system using fascial techniques and gentle oscillatory techniques (e.g. GOT – general osteopathic treatment). In patients treated non-operatively (chemotherapy, radiotherapy) it is suggested to work with the vegetative system. It allows easing of some vegetative symptoms through neuromobilization, cranial techniques (e.g. work with labyrinth organ) or coeliac techniques. In the situation of bed-ridden patients especially useful are respiratory techniques, rib and diaphragm mobilization, and release of the scapula [4].

Nowadays a growing role of physiotherapy and osteopathy can be observed in patients treated for head and neck tumours. These tumours are sixth in frequency of detection worldwide. They are recognized in about half a million people every year. The latest reports show a growing morbidity rate in Central-East Europe, including Poland [5].

Working in a team which treats patients with neoplastic diseases of the head and neck requires from the physiotherapist a wide knowledge about ENT, audiology, phoniatrics, neurology, surgery and dentistry. Therapy is administered in all regions of sense organs and in regions which are very diverse in terms of functions and anatomical structures.

Physiotherapy is especially important in patients after the following operative procedures in the head and neck region:

- Total laryngectomy (complete removal of larynx),
- Neck lymphadenectomy (removal of lymph node located on neck),
- Partial larynx removal, operations in region of mandible and temporal-mandible joint,
- Operations in region of parotid gland causing disorder of facial nerve,
- Operations causing swallowing disorder (in region of throat, palatine tonsil, tongue, bottom of oral cavity),
- Operations causing oedema and lymphatic stasis in head and neck.

The main role of physiotherapy is to activate the patient after the surgical procedure in the early stage. This allows the risk of early circulatory-respiratory complications to be decreased and psychophysical possibilities of the patient to be activated.

Fast inclusion of manual techniques allows one to avoid early threats and complications after surgical procedures in the head and neck region:

- delay of healing of post-operational wound,
- dehiscence of the wound,
- oedema and lymphatic stasis,
- ecchymosis,
- haematoma,
- bleeding,
- fistula,
- dyspnoea.

Breathing exercises are very important in this period, because they employ the diaphragmatic respiratory tract, fast motor activation, and exercises giving the possibility to protect post-operational fields. It is very important to teach a proper motor pattern, suited to individual abilities of the patient, and to show exercises which help to achieve proper position of the head and neck as well as deep muscle stabilization and proprioception. During the whole stay in a hospital it is important to teach and encourage patients to do individually selected exercises. More often a need of indirect and direct work with soft tissue during radiotherapy is observed. It helps to decrease pain and the feeling of tissue tension, as well as restrictions of head and neck movement. In the post-hospital period a very important role is played by fascial techniques, which are used on the scars and soft tissue restrictions resulting from surgical procedures and radiotherapy. It is important to continue exercises learned in the post-operative period, because it helps to limit functional disorders of the head and neck appearing after surgical treatment. It is also worth encouraging patients to start general recreational activity.

In women after total breast resection and after adjuvant treatment, similarly as in the case of head and neck tumours, structure and functions of tissues are very disturbed. Very often palpation of these anatomical structures is very hard because of increased tension of soft tissues, lymphoedema and scars. What is more, a fascia covering these tissues has an indirect and direct influence on the functions of the whole trunk and extremities. It is a continuous system, spread between the deep layers (bones, tendon, ligament and internal organs) and the layer directly under the skin (superficial fascia). Simultaneously direct injury of breast muscles disturbs functions of the fascia system, whose parts are:

- epimysium (surrounding belly of muscle),
- perimysium (surrounding bundle of muscular fibres in belly of skeletal muscle),
- and endomysium (surrounding separate muscular fibres).

This disorder is transferred to the system of the chest fascia and fascia of the head and neck (pectoral fascia, claviopectoral fascia, endothoracic fascia, thoracolumbar fascia, lamina of cervical fascia). They have a direct influence on transferring tension to the pelvis, extremities and head. Disturbance of their functions has an influence on the patient's posture and myofascial pain. In connection with the above-described disorders in the myofascial-ligamentous system in patients under therapy, manual and osteopathic techniques should be used. These techniques improve the functions of soft tissue of the chest area [6, 7, 8, 9, 10, 11, 12].

Direct osteopathic soft tissue therapy in women after mastectomy should begin immediately after healing of the post-operational wound. Gentle manual techniques should be administered during radiotherapy, because it may cause tissue glide disorder between tissue layers in the area of radiation. Patients feel it as "tightness" and mobility reduction or pain. Because of tissue continuity, superficial relaxation should be done in myofascial-ligamentous "chains", in the regions of the upper extremities, trunk, head and neck and even the lower extremities [11, 13].

In the framework of tissue therapy directly connected with the post-operational field the main attention should be paid to breast muscle (bigger and smaller) mobilization. It is one of the most important actions during application of myofascial techniques in women after mastectomy. It allows one to reduce the tension in the region of the trunk, neck, upper extremities, and even the groin and lower extremities.

A very important element in therapy is to restore proper movement of the scapula in the lower thorax. Movement disorder causes secondary disorder of motor patterns, timing and functions of the shoulder girdle, and further compensatory overload and pain.

An important problem in oncological treatment is the appearance of scars after operations and after complementary treatment. It is extremely important in the case of women after mastectomy, because scars have not only aesthetic but also biomechanical and functional relevance. They significantly restrict movements of the chest, thoracic and cervical spine, shoulder girdle and upper extremities. They have a negative influence on body posture of the patient

and on the sense of fatigue. Significant restriction of soft tissue movement is observed in palpation examination, and it is connected with the feeling of “skin-tight clothes” on the chest [8, 14, 15].

Patient treated palliatively (palliative patient)

Palliative care consists of actions improving people’s quality of life. It helps patients and their families, who struggle with problems connected with advanced stages of disease.

Such actions include preventing suffering and bringing relief through early diagnosis, proper assessment of somatic symptoms and solving psychosocial problems [16]. The procedure of prevention, monitoring and treatment is determined by actual or apparent symptoms. In this context physiotherapy also has a place and has become an important element of palliative care. The main aim of such care is to improve quality of life through achieving maximum efficiency and independence and to free the patient from distressing symptoms [17]. During treatment of many symptoms, reducing the patient’s quality of life, it is reasonable to use osteopathic and manual treatment techniques. Such symptoms are:

- constipation,
- lymphoedema,
- and tiredness connected with neoplastic disease (CRF – cancer-related fatigue).

Constipation is the third most frequently reported symptom in patients with advanced neoplastic disease, which significantly reduces quality of life. Prophylaxis and treatment comprise pharmacological and non-pharmacological methods [18]. A very important element of the non-pharmacological approach is physiotherapy. Its main aims are:

Modification of some risk factor of constipation (e.g. immobilization), increase of intestinal peristalsis, and decrease of myofascial balance of the abdominal integument. In patients immobilized for a long time, suffering from constipation, disturbance of myofascial balance in the area of the abdominal cavity can be found. It is caused by transfer of dysfunctions in the viscerosomatic reflex arch. Functional disturbance of interior organs causes a specific pattern of reflex reactions in myofascial structures [3]. Increased tension of the abdominal integument emerging in patients suffering from constipation is an additional source of discomfort. To achieve normalization of abdominal integument tension, myofascial relaxation techniques can be used. Direct and indirect activation of fascia allows reorganization of fibres of connective tissue in a very elastic and functional way. It causes no feeling of discomfort [19]. During therapy of a patient suffering from constipation some elements of abdominal integument massage can be used. We should remember that it is not always tolerated by patients because of flatulence and stomach pain. Using relaxation techniques for abdominal fascia is one of the therapeutic approaches which is better tolerated by patients. In the context of osteopathic work with the visceral area reduction of tension after mobilization is observed, especially in transition zones (colon curvature, sphincter of Oddi). After release of tension in the respiratory diaphragm area the muscle balance

is restored. In the framework of restoration of myofascial balance in the area of the abdominal cavity, taping can also be used – Kinesio-Taping® (applications to small and large intestine) [20]. It is worth highlighting that using manual therapy techniques and classic massage influence an increasing number of voids and reduction of discomfort accompanying constipation.

The problem of lymphatic oedema concerns a very large group of oncological patients. It can be directly connected with the tumour or be an undesirable effect of antineoplastic therapy. The aetiology of lymphatic oedema appearing in patients with neoplastic disease is very complicated. Apart from impairment of lymph outflow associated with antineoplastic treatment (surgical procedures, radiotherapy), in the aetiology of lymphoedema we should always take into consideration systemic factors connected with advanced stages of the disease. The most important are: hypoproteinaemia, advanced kidney failure, anaemia, and taking medicines that cause water retention (corticosteroids, NSAIDs) [21]. An additional complication is a general poor condition, which is a factor disqualifying the patient from receiving complex decongestive therapy (CDT). This therapy comprises manual lymphatic drainage (MLD), multi-layered bandaging and exercises improving lymph outflow and skin care.

CDT has been recognized by the International Society of Lymphology (ISL) as the basic method of treatment of lymphatic oedema. It can be expanded by other forms of therapy and it can be modified taking into consideration individual needs of the patient. Fascia techniques can be a valuable supplementation. These techniques consist of stretching of skin, connective subcutaneous tissue and deep fascia, allowing proper fascia movement to be re-established. Re-establishing proper fascia movement helps to improve outflow of lymph. This is especially important in patients with mixed venous-lymphatic failure observed in the lower extremities. The fascia system is not a passive coat, but a functional entity taking part in movement of the deep venous system. There is no available examination which allows assessment of myofascial techniques' effectiveness in reducing lymphatic oedema. All suggestions concerning possible application as part of anti-oedematous therapy result from the observations and practical experience of physiotherapists who were using these methods.

Recently a lot of attention has been drawn to the use of Kinesio-Taping in treatment of lymphatic oedema. Available studies assessing the effectiveness of this form of therapy were done among women after a mastectomy. The research results show that the effectiveness of Kinesio-Taping is comparable with classic complex anti-oedematous therapy [22, 23]. However, these results might have no relevance for a population of patients with advanced neoplastic disease because of the more complicated aetiology of lymph failure in this group of patients. Empirical work with patients with lymphatic oedema during advanced neoplastic disease leads the authors of this paper to highlight the significantly better effectiveness of compression treatment using multi-layered bandaging compared to Kinesio-Taping.

Tiredness connected with neoplastic disease (CRF – cancer-related fatigue) concerns 80–90% of patients with advanced stage disease [24]. Until now there has been no homogeneous definition, mostly because of the complicated na-

ture of the mechanism, which is described as a metabolic disorder with diverse pathogenesis. Weight decrease, anaemia, tiredness and sometimes sitophobia lead in consequence to a significant decrease of physical efficiency [25]. One of the elements of CRF treatment is a non-pharmacological procedure.

There are many factors accompanying CRF which influence exacerbation of the disease. One of them is lack of physical activity. That is why one form of CRF treatment is increased physical activity. In the situation where the patient presents body mass reduction, sitophobia, and fatigue, increasing with every movement, all actions proposed by the therapist are rejected. Patients claim first of all that they are very tired and that they are afraid of greater tiredness. Physical activity undertaken by the patient should be preceded by proper preparation of the myofascial system. With this end in view we can use some elements of soft tissue therapy. In case of very limited energetic resources, small physical efficiency and negative attitude from the patient, a proposal of therapy connected with work with soft tissue is very interesting, mostly because this kind of therapy is stationary and low-energetic.

Therapy is a type of massage which costs nothing in terms of energy loss and is a pleasant impulse exerting an effect of relaxation. The patient associates the physiotherapist's visit with work and physical effort, and hence with greater tiredness. Broadening of techniques and gentle and skilful introduction of exercises can fluently lead a patient through teaching of active relaxation and restoration of physiological standards of muscle functioning. It can also help the patient to restore individual muscle work and increase physical activity, which is initially concentrated on basic everyday actions or contacts with others.

Precautions in using manual therapy and osteopathy in oncology

Testing the use of manual therapy and osteopathic methods during treatment of oncological patients requires some precautions. Physiotherapeutic support of constipation treatment is contraindicated in cases of obstruction of the alimentary tract and inflammatory processes in the region of the abdominal cavity during and after radiotherapy (until 6 weeks after radiation of the abdominal cavity). It is also contraindicated if the patient suffers from stomach pain with unknown aetiology [26, 27]. We should also pay close attention during work with patients suffering from bone pain, connected with metastasis to bones. It is connected with increased risk of pathological fracture, and it significantly reduces the possibility of patients improving. Metastasis to bones should not deny the patient the possibility to work with a physiotherapist. Use of the proper orthopaedic support and gentle soft tissue therapy can be a value ingredient of analgesic treatment. A properly educated physiotherapist can contribute to easing discomfort associated with pain, using direct and indirect techniques of manual therapy. He can also help to stop pain connected with pseudo-neurological ailments (myofascial pain), in syndromes reflexively increasing tension of skeletal muscles. He can increase functions and structure of changed tissues.

The value of applying manual and osteopathic techniques during treatment of patients rests on increased psycho-emotional activation. If we do not leave him alone, we help the natural strengths of his body to regenerate and auto-

regulate. Taking into consideration patients' complicated needs, manual therapy is an interesting supplementation of medical care [4]. In this kind of patient manual treatment can be reasonable according to the actual dysfunction. Most important is proper selection of techniques and time of work with the patient. Work patterns should not be transferred from other fields of medicine because this can result in structural damage or over-stimulation of the nervous and immunological system.

We hope that this short, general review of practical possibilities of using the new tools can be an interesting start of further discussion about the usefulness of applying manual and osteopathic techniques. This subject requires a wider discussion, because it concerns a specific region (head and neck) and a specific target group – oncological patients treated curatively and palliatively. Is it worth searching for new therapeutic elements? How can they influence the patient? We should always take into consideration the individual needs and possibilities of the patient. The determinant of effectiveness of a physiotherapist's actions should be increasing patients' quality of life.

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ZASTOSOWANIE OSTEOPATII I TERAPII MANUALNEJ W ONKOLOGII ORAZ W OPIECE PALIATYWNEJ

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Streszczenie

Choroba nowotworowa jest w Polsce drugą pod względem częstości przyczyną zgonów (po chorobach układu krążenia). W naszym kraju onkologia, jak każda rozwinięta dziedzina medycyny, jest specjalnością zespołową, a fizjoterapeuta/osteopata będąc członkiem wielospecjalistycznego zespołu ma szansę aktywnie współuczestniczyć w podjętych działaniach medycznych zarówno na początku jak i na końcu historii życia pacjenta z chorobą nowotworową. U chorych w każdym stadium choroby, leczonych przyczynowo jak i objawowo, skomplikowany obraz kliniczny nasilają dodatkowo różnorodne objawy choroby nowotworowej: ból, duszność, zaparcia, zmęczenie, powikłania długotrwałego unieruchomienia, bóle mięśniowo-powięziowe, zastoje limfatyczne. Nierzadko, problemy te, związane są bezpośrednio z uszkodzeniem tkanek miękkich (struktury zdrowej tkanki lub narządu), a także ich czynności w wyniku toczącego się procesu rozrostowego lub zastosowanych metod leczenia (chirurgia, chemioterapia, radioterapia i inne). Wszystkie te elementy w sposób znaczący przyczyniają się do obniżenia jakości życia zarówno pacjentów onkologicznych jak i będących w zaawansowanym stadium choroby, objętych opieką paliatywną. Podjęta w porę rehabilitacja może pacjentowi przywrócić samodzielność czynnościową a przez to poprawić jakość jego życia. Jak do tej pory, brak jest w literaturze doniesień czy też chociażby teoretycznej dyskusji nad możliwością zastosowania wybranych elementów medycyny manualnej i osteopatii w onkologii, choć znaczenie rehabilitacji chorych leczonych z powodu nowotworów jest powszechnie rozumiane i akceptowane. Osteopatia i terapia manualna w leczeniu chorych nowotworowych nie ma ambicji zastępowania leczenia specjalistycznego. Głównym celem jest diagnostyka, profilaktyka i terapia odwracalnych zaburzeń czynności (dysfunkcji somatycznych) w układzie narządu ruchu. Szczególnie obszarów nie objętych procesem chorobowym, a mimo to zaangażowanych ze względu na funkcjonalną ciągłość aparatu ruchu. Działanie terapeuty jest tutaj formą działania bezinwazyjnego i skupia się głównie wokół postępowania diagnostyczno-leczniczego. Wykorzystując miękkie i bezpieczne metody badania palpacyjnego, rozluźniania mięśniowo-powięziowego, rozluźniania pozycyjnego, odtwarzanie fizjologicznych wzorców pracy mięśni, terapii punktów spustowych, fizjoterapeuta ma możliwość nieinwazyjnego badania, co precyzuje dolegliwości bólowe, ich źródło oraz powiązania, a następnie wspomaganie czy nawet leczenie zaburzeń układu nerwowo-mięśniowo-szkieletowego przy równoczesnym uwzględnieniu wpływów trzewnych, psychosomatycznych i środowiskowych.

Słowa kluczowe: osteopatia, opieka paliatywna, terapia manualna, nowotwór, onkologia, powięź, mastektomia, onkologia głowy i szyi, zmęczenie, zaparcia, obrzęk limfatyczny.