

---

## Predstavitev metode Mézières

mag. **Maja Fortunat**, viš. fiziot.<sup>1</sup>; dott. **Fabrizio Zambonelli**, fiziot.<sup>2</sup>

<sup>1</sup>Zasebna fizioterapija Studio Maja, Koper; <sup>2</sup>Zasebna fizioterapija Bologna, Italija

**Korespondenca/Correspondence:** mag. Maja Fortunat, viš. fiziot.; e-pošta: fortunat.maja@gmail.com

Teoretično in praktično bomo predstavili metodo Mézières, kot jo je učila in zapisala v le eni skripti fizioterapevtka Francoise Mézières okoli leta 1950. Za tiste čase je bila genialka na področju ortopedске fizioterapije, ker je videla ortopedski problem (npr. skolioze, kifoze itn.) širše, kot problem celih mišičnih verig, ki so povezane med seboj in zaradi prikrajšav vplivajo na celoten skelet.

Da lahko človeško telo dobro deluje, mora biti v ravnovesju in čim bolj simetrično. Harmonična in pravilna drža telesa določa pravilno funkcijo tako sklepov kot mišic in telo osvobaja. Funkcijo lahko obnovimo, če najprej popravimo držo telesa in ne obratno. Deformacije oziroma prilagoditvene nesimetričnosti (ramena naprej, lordoze, kifoze, kolena rotirana navznoter itn.) so skoraj vedno posledice skrajšane zadnje mišične verige, ki je sestavljena iz mišic od glave do pete. To posledično privede do izgube ravnovesja z drugimi mišičnimi verigami (s sprednjo mišično verigo od vratu spredaj čez trebuh do stopal in z verigami na rokah) ter s sklepnimi površinami, kar vodi v vnetja, obrabo, bolečine in degeneracijo.

Na delavnici bodo teoretično in praktično predstavljena štiri glavna načela te metode:

1. Številne hrbtne mišice se vedejo kot ena mišica.
2. Zadnja mišična veriga (od glave do pete) je večinoma prekratka.
3. Pri vseh aktivnostih na lokalni ravni (poprava ramen, kolkov, vratu itn.), če mišice podaljšujemo ali krajšamo, vplivamo na celo telo.
4. Napetosti, bolečine, podaljševanja in krajšanja mišic vodijo takoj v blokado diafragme v dihu. Diafragma nima le glavne vloge pri dihanju, temveč je pripeta na L2 na levi strani in na L2, L3 na desni strani hrbtenice in je v sinergiji z mišico psoas, ki dela anteriorno trakcijo na hrbtenico od Th12 do L5, zato je povezava z dihanjem nujen in glavni del terapije.

Glede na Mézièrjevo so mišične verige organizirane tako, da vplivajo na skelet. Če torej vplivamo na mišični sistem, posledično vplivamo tudi na skeletni sistem, zato pri praktičnem delu na pacientu podaljšujemo vse mišične verige hkrati: sprednji dve verigi, vzdolž roke in zadnjo mišično verigo. Če ne prihaja stalno do kompenzacij, na primer, če popravimo le lordozo križa, se bo pojavila kompenzacija tako, da se bo povečala lordoza v vratu in ne bo prišlo do podaljšanja celotne verige in do trajne spremembe. Med terapijo podaljšujemo mišične verige, tako da se čim bolj približamo pravilni drži, torej pravilnim fiziološkim krivinam v hrbtenici in pravilnim položajem sklepov preostalega dela telesa. Delo poteka hkrati na vseh štirih kinetičnih verigah, ker lokalno delo ne privede do trajnega izboljšanja. Terapija se izvaja pri izdihu, ker pri vdihu ali apneji pride do kontrakcije diafragme, ki se pripenja na lumbalni del hrbtenice in vleče v lordozo, kar pomeni v skrajšavo. Že po eni terapiji se vidno izboljša drža celega telesa v vseh ravninah.

**Ključne besede:** drža telesa, funkcija, mišične verige, ortopedске težave, bolečina.

## Presentation of the Mézières method

We shall give a theoretical and practical presentation of the Mézières method as it was taught and written in a single manuscript by the physiotherapist Francoise Mézières around the year 1950. At that time, she was a genius in the field of orthopedic physiotherapy, because she looked upon an orthopedic problem (e.g. scoliosis, kyphosis, etc.) more broadly, as a problem of entire muscle chains, which are interconnected and, when shortened, affect the entire skeleton.

In order to function properly, the human body must be in balance and maximally symmetric. A harmonious and good posture determines the proper function of both the joints and muscles, and liberates the body. Function can be restored if we first correct our posture and not vice-versa. Deformations or adaptive asymmetries (shoulders forward, lordosis, kyphosis, knees rotating inward, etc.) are almost always the consequence of a shortened posterior muscle chain, which comprises the muscles from head to foot, and subsequently leads to a loss of balance with other muscle chains (front muscle chain from the front of the neck via the abdomen to the feet and chains on the hands) and joint surfaces, ultimately resulting in inflammations, wear, pain and degeneration.

At the workshop, we will give a theoretical and practical presentation of the four basic principles of this method:

1. Numerous dorsal muscles behave as a single muscle.
2. The posterior muscle chain (from head to foot) is, in most cases, too short.
3. All activities on the local level (correction of shoulders, hips, neck, etc.), whether the muscles are extended or shortened, affect the entire body.
4. Tensions, pain, elongations and shortening of the muscles immediately lead to a blocking of the diaphragm during inhalation. The diaphragm not only has the main role in breathing, but is attached to L2 on the left side and to L2, L3 on the right side of the spine, and is in synergy with the psoas muscle, which creates anterior traction to the spine from Th12 to L5. For this reason, the connection with breathing is a necessary and main part of the therapy.

According to Mézière, muscle chains are organized so that they influence the skeleton, which means that if we influence the muscle system, we will consequently influence the skeleton system as well. For this reason our practical work on a patient will be focused on elongating all muscle chains simultaneously: the two anterior chains, lengthwise along the hand and the posterior muscle chain otherwise the compensations will happen (e.g. if only lordosis of the lower back is corrected, this will be compensated by increased lordosis of the neck). During therapy we will elongate the muscle chains so as to maximally approach a good posture, which means proper physiological curves in the spine and proper position of the joints in other parts of the body. We shall perform our work simultaneously on all four kinetic chains, since working locally does not bring lasting improvement. Therapy is performed during exhalation, because the diaphragm will contract during inhalation or apnea, attaching itself to the lumbar part of the spine and pulling into lordosis, which means shortening. After a single therapy, the posture of the entire body visibly improves on all planes.

**Key words:** posture, function, muscle chains, orthopedic problems, pain.

### **Literatura/References:**

1. Mézières F (1949). Révolution en gymnastique orthopédique: Causes et traitement des déviations vertébrales et algies d'origine musculaire - Amédée Legrand et compagnie.
2. Mézières F (1984). L'originalità del metodo mézières — "Centre Mézières", Parigi.
3. Il Manuale del Mézièrista (1996). Vol.1 – Godelieve Denys-Struys – Editore Marrassese –Roma.
4. Metodo Mézières «rivoluzione in fisioterapia» (2006). Storia, teoria e pratica dell'ideatrice della rieducazione posturale di Michaël Nisand – ed. Fisiocorsi.

---

## Terapija s pomočjo psov pri nevroloških pacientih

pred. **Maja Povše**, viš. fiziot., univ. dipl. ped., **Irena Dolinšek**, dipl. fiziot.

Univerzitetni rehabilitacijski inštitut Republike Slovenije - Soča, Ljubljana, Slovenija

**Korespondenca/Correspondence:** Maja Povše; e-pošta: povse.maja@ir-rs.si

**Uvod:** Živali povečujejo človekovo motivacijo, ga spodbujajo k različnim dejavnostim in tako poskrbijo tudi za gibanje (1). Najpogosteje se za terapijo z živalmi uporablja pes, saj je med vsemi živalmi človeku najzvestejši spremljevalec, je učljiv, poslušen in mobilan. Za uporabo v terapevtske namene mora izpolnjevati merila, kot so zanesljivost, predvidljivost, vodljivost, prilagodljivost in ustreznost (2). Terapija s pomočjo psov (angl. animal-assisted therapy) se uporablja pri delu v različnih javnih zavodih in ustanovah v Sloveniji in tujini. Terapija s pomočjo psov je ciljno usmerjeno posredovanje, pri katerem so psi (skupaj z vodnikom), ki ustrezajo določenim merilom, pomemben del terapevtskega procesa, opravljajo pa ga v okviru svoje stroke za to usposobljeni strokovni delavci. Program je za doseganje terapevtskega cilja skrbno načrtovan. Izvajanje programa se sproti spremlja, zapisuje in vrednoti. Prilagojen je posameznemu uporabniku (3). Namen delavnice je praktično prikazati potek terapije s pomočjo psov in njen učinek na izboljšanje gibanja pri pacientih z nevrološko okvaro. **Metode:** Od leta 2007 poteka program Terapija s pomočjo psov na oddelku za rehabilitacijo pacientov po nezgodni poškodbi možganov, z multiplo sklerozo in drugimi nevrološkimi obolenji. Terapijo izvajajo trije ali štirje terapevtski pari društva Tačke pomagačke in pet strokovnih delavk URI - Soča: dve fizioterapevtki, dve delovni terapevtki, logopedinja in občasno tudi psiholog. Terapije potekajo enkrat na teden in trajajo eno uro. Delo je individualno in ga ob posameznem pacientu izvajata terapevtski par (pes in njegov vodnik) ter strokovni delavec. Med terapevtskim programom potekajo dejavnosti za spodbujanje grobe in fine motorike (npr. zavezovanje rutice), naloge za izboljšanje senzibilitete (npr. božanje psa), vaje za ravnotežje in koordinacijo gibanja (npr. hoja čez psa), vadba hoje (npr. vodenje psa na povodcu), sproščanje (npr. dajanje priboljškov psu), izvajanje različnih funkcionalnih dejavnosti (npr. nega psa, oblačenje) kot tudi aktivnosti za spodbujanje govora (npr. poimenovanje delov telesa, dajanje navodil) in kognicije (npr. pogovor o psu). Cilji so izboljšanje gibanja, budnosti, pozornosti, sporazumevanja, čustvenega stanja in motivacije. **Rezultati:** V osmih letih se je programa udeležilo 90 pacientov po nezgodni možganski poškodbi, 91 pacientov z multiplo sklerozo, 46 pacientov s Parkinsonovo boleznijo in 78 pacientov z drugimi nevrološkimi obolenji, skupno 305 pacientov. Nekateri pacienti so se terapij udeležili večkrat. Za ocenjevanje smo uporabili enostavne lestvice, s katerimi smo na podlagi opazovanja ocenili splošno odzivnost glede na njene vidike oziroma dimenzije: gibanje, budnost in pozornost, sporazumevanje ter čustveno in motivacijsko stanje (4). Akcijska pilotna raziskava, ki je potekala od maja 2007 do junija 2008 v okviru projekta za uvajanje terapije s pomočjo psov na nevrološki oddelek, je pokazala 93-odstotni pozitiven odziv na terapijo s pomočjo psov. **Zaključki:** Lahko zaključimo, da se je terapija s pomočjo psov izkazala za uspešno dopolnitev fizioterapevtskih postopkov v rehabilitaciji. Učinki so pozitivni, ob psih se pacientom poveča motivacija, zato so pri izvedbi aktivnosti med terapijo s pomočjo psov pogosto zelo uspešni, kar se posledično pozna tudi v rednih terapevtskih programih.

**Ključne besede:** pes terapevt, terapija s psi, nevrološka okvara, motorika, terapevtski cilj.

## Dog-assisted therapy in neurological patients

**Background:** Animals increase person's motivation, prompting him or her to various activities, thereby also promoting movement (1). The most common animal therapists are dogs, since they are the human's most faithful companions; they are learnable, obedient and mobile. In order to become a therapist, a dog must fulfil a few requirements, such as reliability, predictability, controllability, adjustability and suitability (2). Animal-assisted therapy (AAT) is used in different public institutions in Slovenia as well as in foreign countries. Animal-assisted therapy is a targeted intervention, in which dogs (along with their handlers) that meet certain standards have an important part in the therapeutic process, which is carried out by professionally qualified therapists. The program is carefully designed for achieving therapeutic goals. The execution of the program is regularly closely observed, examined and evaluated, since the program has to be adapted for each patient individually (3). The purpose of the workshop is to practically demonstrate the course of animal-assisted therapy and its effect on the improvement of motor function on people with neurological impairment. **Methods:** The AAT program is used at the Department for rehabilitation of patients with traumatic brain injuries, multiple sclerosis and other neurological disorders. The therapy is performed by three to four therapeutic teams of the Tačke pomagačke association and by five professional therapists of URI-Soča: two physiotherapists, two occupational therapists, a speech therapist and sometimes also by a psychologist. Patients have therapies once a week for one hour. They are performed individually by a therapeutic team (a dog and his handler) and a professional therapist. During the therapeutic program activities for gross and fine motor functions are executed (e. g. tying up a bandana), exercises for improvement of sensibility (e. g. petting the dog), exercises for balance and movement coordination (e. g. walking over the dog), walk training (e. g. walking the dog on a leash), relaxation (e. g. giving treats to the dog), execution of different functional activities (e. g. caring for the dog, clothing it) as well as activities for improving the speech (e. g. naming the dog's body parts, giving it instructions) and cognition (e. g. conversing about dog). The goals are an improvement of the patients' motor functions, attentiveness, alertness, communication, and their emotional and motivational state. **Results:** In eight years, 90 patients after brain injury, 91 patients with multiple sclerosis, 46 patients with Mb. Parkinson's disease, 78 patients with other neurological diseases, altogether 305 patients attended the program. Some patients attended this therapy several times. For evaluation we used simple grading scales, with which we assessed their responses based on observation according to the aspects and dimensions of the observation: movement, alertness, attentiveness, communication, emotional and motivational state of the patient (4). The pilot research took place in the context of a project aimed to introduce AAT at the neurological department (May 2007–June 2008) and it showed a 93% positive response on the therapy. **Conclusions:** We can conclude that during project the practising of AAT has proven to be as a successful addition to therapeutic approaches in the field of physiotherapy in rehabilitation. The effects of AAT are positive, patients' motivation has increased in the company of dogs and these patients are therefore often very successful in executing activities and consequently also in usual therapeutic programs.

**Key words:** therapy dog, animal-assisted therapy, neurological impairments, motorics, therapeutic goals.

### Literatura/References:

1. Bergler R, Hoff T (2010). Fascinantni izsledki raziskav: Živali zdravilno vplivajo na človeka. Dostopno na spletnem naslovu: <http://www.ekomagazin.si/Zdravje/Zdravje/Fascinantni-izsledki-raziskav-Zivali-zdravilno-vplivajo-na-cloveka.html> (citirano 15. 3. 2015).
2. Fine HA (2006). Animal-assisted therapy: theoretical foundations and guidelines for practice. San Diego, London: Academic Press, 123–6.
3. Društvo Tačke pomagačke. Dostopno na spletnem naslovu: <http://tackepomagacke.si/programi/terapija-s-pomocjo-psov> (citirano 18. 3. 2015).
4. Kovačič D (2008). Poskusni program rehabilitacije s pomočjo psov. Rehabilitacija, let. 7, št. 2: 23–9.

## Uporaba Flexi-bara v fizioterapiji

**Petra Dovč**, dipl. fiziot., univ. dipl. org.<sup>1</sup>; **Polona Malešič**, dipl. fiziot.<sup>2</sup>

<sup>1</sup>Univerzitetni klinični center Ljubljana, Ortopedska klinika, Ljubljana; <sup>2</sup>Univerzitetni rehabilitacijski inštitut Republike Slovenije - Soča, Ljubljana

**Korespondenca/Correspondence:** Petra Dovč, dipl. fiziot., univ. dipl. org.; e-pošta: petra.dovc@kclj.si

**Uvod:** Vibracijska palica Flexi-bar je multifunkcionalni in tridimenzionalni pripomoček, ki ga lahko vključimo v fizioterapevtski program na različnih področjih fizioterapije. Elastične in konstrukcijske značilnosti palice omogočajo vibriranje s frekvenco 5 Hz, s čimer vplivamo na stabilizacijske mišice trupa. (1) Oscilacijsko gibanje stimulira mehanoreceptorje, ki inhibirajo prevajanje nociceptivnih impulzov do hrbtenjače in možganskega debla. (2) Pri vibracijski vadbi se ob vsaki mišični kontrakciji aktivira do 100 odstotkov mišičnih vlaken, pri standardnih oblikah vadbe pa se odstotek aktiviranih mišičnih vlaken giblje nekje med 40 in 60 odstotki. (3) Vzrok je v skoraj nenehnem refleksnem krčenju in raztezanju mišic. Vadba z njim je enostavna, če upoštevamo postopnost in primernost pri izboru vaj. Primerna je za vse starostne skupine, uporabljamo jo lahko v različnih položajih telesa. **Metode:** Na delavnici bomo prikazali osnovne principe uporabe Flexi-bara. Naučili se bomo: pravilne tehnike nihanja z različnimi prijemi palice ter nihanja v različnih položajih telesa in pri različnih vajah ter pogledali njihovo uporabnost. Govorili bomo tudi o indikacijah in kontraindikacijah za vadbo. **Zaključki:** Uporaba vibracijskih palic v fizioterapevtske namene je smiselna in učinkovita.

## Use of Flexi-bar in physiotherapy

**Introduction:** Flexi-bar is a vibrating, multifunctional, threedimensional accessory that can be included in different fields of physiotherapy and therapeutical programmes. Elastic and constructional features of the bar enable vibrating by frequency 5 Hz which determinates the activation of core muscles. (1) Oscilating movement stimulates mechanoreceptors that inhibit the translation of the nociceptive impulse to the spinal cord and brain stem. (2) By vibrating exercise each muscle contraction activates till 100% of muscle fibres while by standard exercise 40 to 60% of muscle fibres is activated. (3) The reason for that is almost constant reflex of contracting and stretching of the muscles. Flexi-bar training is simple considering gradualness and adequacy of the exercise. It is suitable for all ages and it can be used in different positions of the body. **Methodes:** In the workshop we will demonstrate basic principles of the use of the Flexi-bar. We will learn the correct technique of the oscillating by different grips of the bar in various positions of the body, exercises and their usefulness in physiotherapy. We will talk about indications and contraindications. **Conclusion:** The use of the oscillating bar is a reasonable and effective part of the physiotherapy treatment.

### **Literatura/References:**

1. Mileva KN, Kadr M, Amin N, Bowtell J (2010). Acute effects of flexi-bar vs. sham-bar exercise on muscle electromiography activity and performance. *Journal of strength and conditioning research* 24 (3): 737–48.
2. Kisner C, Colby L.A. 2000. *Therapeutic Exercises: Foundations and Techniques*.
3. Cochrane, DJ and Stannard, SR. Acute whole-body vibration training increases vertical jump and flexibility performance in elite female hockey players (2005). *Br J Sports Med* 39: 860–5.