

# Kinésithérapie pour les cervicalgies : Raisonnement clinique, Thérapie manuelle & exercices



**Durée de la formation présentiel :** 14 heures

**Pré-requis :** Diplôme d'Etat de Masseur-Kinésithérapeute ou équivalent

**Formateur :** Grondin Francis, Kinésithérapeute, Certificat de Thérapie Manuelle Orthopédique, Doctorant

- **Pré-requis :** Diplôme d'Etat de Masseur-Kinésithérapeute ou équivalent

- **Modalité d'évaluation et de suivi :** Formateur et stagiaires devront procéder à l'émergences de présence par demi-journée. Une attestation de formation sera fournie à chaque participant

- **Thème :** Prévention et prise en charge des pathologies neuro-musculo-squelettiques

## ***Méthode utilisée :***

Cette formation se réalisera sous la forme HAS de pédagogie cognitive collective (présentielle) avec une répartition théorique/pratique à 40%/60% comportant :

- Une analyse des pratiques professionnelles (APP) sous forme de questionnaires (voir questionnaire électronique)

- Une acquisition de connaissances théoriques (synthèse de l'état de la science) sous forme de communications magistrales

- Les messages-clé synthétisés sur des documents écrits seront fournis permettant le transfert des acquis sur le terrain.

- Un dispositif de suivi par emails ou session de révision d'analyse et de modifications de pratique afin de mesurer les changements de pratique à la suite de la formation.

A ceci s'ajoute :

- La formation comprend des étapes magistrales et pratiques (réalisation des techniques).

Une évaluation de la formation en fin de formation par les participants ainsi qu'une évaluation par QCM des acquis en fin de formation

sera présent tout au long de la formation pour assurer la partie logistique de la formation.

## **Outils pédagogiques mobilisés :**

Un support de cours en français illustré détaillant la présentation power point sera fourni. Ce support de cours reprend les aspects théoriques, clinique et techniques du contenu de la formation. Le lieu de stage

comprend un système de projection, d'un paper board, de tables d'examen, squelette d'anatomie, matériel et machines spécifiques de traitement. Un organisateur représentant l'organisme de formation sera présent tout au long de la formation pour assurer la partie logistique de la formation.

## **Objectifs :**

- Savoir examiner un patient souffrant de cervicalgies

- Etre capable de reconnaître des signes ou symptômes associées à un diagnostic différentiel grave

- Savoir reconnaître les grands sous-catégories de cervicalgies

- Connaître les procédures d'examen et le diagnostic différentiel d'atteintes d'articulations, nerveuses et des muscles du rachis cervical

- Etre capable d'établir un programme de traitement pour des sujets souffrant de cervicalgies

## **Programme détaillé :**

Un support de cours en français illustré détaillant la présentation power point sera fournie. Ce support de cours reprend les aspects théoriques, clinique et techniques du contenu de la formation. La formation comprend des travaux pratiques et des études de cas cliniques. Le lieu de stage comprend un système de projection, d'un paper board et de tables d'examen.

## Emploi du temps et programme

### Jour 1

8h30 – 9h00 : Présentations et aperçu du cours (théorie)

9h00 – 9h30 : Introduction, Généralités, sous-classification (théorie)

9h30 – 10h15 : Critères d'exclusion et pathologies graves, cas clinique n°1-2 (théorie)

10h15 – 10h30 : Pause

10h30 – 11h00 : Radiculopathie cervicale, physiopathologie, examen clinique et traitement (théorie)

11h00 – 11h45 : Radiculopathie cervicale, examen clinique neurologique et cluster de test, traitement mécanique et manuel (pratique)

11h45 – 12h15 : Radiculopathie cervicale et traitement 2 (pratique)

12h15 – 12h30 : Radiculopathie cervicale, cas clinique n°3 & questions-réponses (pratique)

12h30 – 13h30 : Pause déjeuner

13h30 – 14h15 : Cervicalgies post-traumatiques, recommandations et traitement (théorie)

14h15 – 14h45 : Cervicalgies post-traumatiques, cas cliniques n°4 (pratique)

14h00 – 14h30 : Cervicalgies non-spécifiques, physiopathologie, recommandations et traitement (théorie)

14h30 – 15h30 : Cervicalgies non radiculalgiques/Cas clinique n°5 : examen clinique, test de différenciation, reproduction de la douleur familière, raisonnement clinique (pratique)

15h30 – 15h45 : Pause

15h45 – 17h00 : Choix de technique efficiente à court et moyen terme, Cas cliniques (pratique)

### Jour 2

8h30 – 9h15 : Rappel journée 1

9h15 – 10h15 : Cas clinique n°6 : raisonnement clinique et traitement aiguë et envisager le traitement à moyen terme (pratique)

10h15 – 10h30 : Pause

10h30 – 11h15 : Progression d'exercice : contrôle moteur, endurance et force (théorie)

11h15 – 12h30 : Tests de contrôle moteur et dissociations oculaires (pratique)

12h30 – 13h30 : Pause déjeuner

13h30 – 14h30 : Test d'endurance et force (pratique)

14h30 – 15h45 : Cas clinique n°6 : Progression d'exercice, exercices de contrôle moteur et renforcement musculaire cervical (pratique).

15h45 – 16h00 : Pause

16h00 – 16h30 : Résumé de la formation

16h30-17h00 : Questions/réponses

### **Bibliographie de la formation (partielle):**

Arumugam, A., Mani, R., & Raja, K. (2011). Interrater reliability of the craniocervical flexion test in asymptomatic individuals--a cross-sectional study. *Journal of Manipulative and Physiological Therapeutics*, 34(4), 247-253. <https://doi.org/10.1016/j.jmpt.2011.04.011>

Bijur, P. E., Latimer, C. T., & Gallagher, E. J. (2003). Validation of a verbally administered numerical rating scale of acute pain for use in the emergency department. *Academic Emergency Medicine: Official Journal of the Society for Academic Emergency Medicine*, 10(4), 390-392.

Bovim, G., Schrader, H., & Sand, T. (1994). Neck pain in the general population. *Spine*, 19(12), 1307-1309.

Cagnie, B., Cools, A., De Loose, V., Cambier, D., & Danneels, L. (2007). Differences in isometric neck muscle strength between healthy controls and women with chronic neck pain: the use of a reliable measurement. *Archives of Physical Medicine and Rehabilitation*, 88(11), 1441-1445. <https://doi.org/10.1016/j.apmr.2007.06.776>

Carroll, L. J., Hogg-Johnson, S., van der Velde, G., Haldeman, S., Holm, L. W., Carragee, E. J., ... Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. (2008). Course and prognostic factors for neck pain in the general population: results of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. *Spine*, 33(4 Suppl), S75-82. <https://doi.org/10.1097/BRS.0b013e31816445be>

Celenay, S. T., Akbayrak, T., & Kaya, D. O. (2016). A Comparison of the Effects of Stabilization Exercises Plus Manual Therapy to Those of Stabilization Exercises Alone in Patients With Nonspecific Mechanical Neck Pain: A Randomized Clinical Trial. *The Journal of Orthopaedic and Sports Physical Therapy*, 46(2), 44-55. <https://doi.org/10.2519/jospt.2016.5979>

Celenay, S. T., Kaya, D. O., & Akbayrak, T. (2016). Cervical and scapulothoracic stabilization exercises with and without connective tissue massage for chronic mechanical neck pain: A prospective, randomised controlled trial. *Manual Therapy*, 21, 144-150. <https://doi.org/10.1016/j.math.2015.07.003>

Chae, S. H., Lee, S. J., Kim, M. S., Kim, T. U., & Hyun, J. K. (2010). Cervical Multifidus Muscle Atrophy in Patients with Unilateral Cervical Radiculopathy. *Journal of Korean Academy of Rehabilitation Medicine*, 34(6), 743-751.

Childs, J. D., Cleland, J. A., Elliott, J. M., Teyhen, D. S., Wainner, R. S., Whitman, J. M., ... American Physical Therapy Association. (2008). Neck pain: Clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopedic Section of the American Physical Therapy Association. *The Journal of Orthopaedic and Sports Physical Therapy*, 38(9), A1-A34. <https://doi.org/10.2519/jospt.2008.0303>

Chiu, T. T. W., Christina W. Y. Hui-Chan, & Chein, G. (2005). A randomized clinical trial of TENS and exercise for patients with chronic neck pain. *Clinical Rehabilitation*, 19(8), 850-860. <https://doi.org/10.1191/0269215505cr920oa>

Côté, P., van der Velde, G., Cassidy, J. D., Carroll, L. J., Hogg-Johnson, S., Holm, L. W., ... Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. (2008). The burden and determinants of neck pain in workers: results of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. *Spine*, 33(4 Suppl), S60-74. <https://doi.org/10.1097/BRS.0b013e3181643ee4>

Dance, C., DeBerard, M. S., & Gundy Cuneo, J. (2017). Pain acceptance potentially mediates the relationship between pain catastrophizing and post-surgery outcomes among compensated lumbar fusion patients. *Journal of Pain Research*, 10, 65-72.

<https://doi.org/10.2147/JPR.S122601>

Danneels, L. A., Cools, A. M., Vanderstraeten, G. G., Cambier, D. C., Witvrouw, E. E., Bourgois, J., & de Cuyper, H. J. (2001). The effects of three different training modalities on the cross-sectional area of the paravertebral muscles. *Scandinavian Journal of Medicine & Science in Sports*, 11(6), 335–341.

De Pauw, R., Coppeters, I., Kregel, J., De Meulemeester, K., Danneels, L., & Cagnie, B. (2016). Does muscle morphology change in chronic neck pain patients? - A systematic review. *Manual Therapy*, 22, 42–49. <https://doi.org/10.1016/j.math.2015.11.006>

Edmondston, S. J., Wallumrød, M. E., Macléid, F., Kvamme, L. S., Joebges, S., & Brabham, G. C. (2008). Reliability of isometric muscle endurance tests in subjects with postural neck pain. *Journal of Manipulative and Physiological Therapeutics*, 31(5), 348–354. <https://doi.org/10.1016/j.jmpt.2008.04.010>

Elliott, J. M., Pedler, A. R., Jull, G. A., Van Wyk, L., Galloway, G. G., & O'Leary, S. P. (2014). Differential changes in muscle composition exist in traumatic and nontraumatic neck pain. *Spine*, 39(1), 39–47. <https://doi.org/10.1097/BRS.0000000000000033>

Elliott, J., Pedler, A., Kenardy, J., Galloway, G., Jull, G., & Sterling, M. (2011). The temporal development of fatty infiltrates in the neck muscles following whiplash injury: an association with pain and posttraumatic stress. *PloS One*, 6(6), e21194. <https://doi.org/10.1371/journal.pone.0021194>

Falla, D., Jull, G., Dall'Alba, P., Rainoldi, A., & Merletti, R. (2003). An electromyographic analysis of the deep cervical flexor muscles in performance of craniocervical flexion. *Physical Therapy*, 83(10), 899–906.

Falla, D., Jull, G., Hodges, P., & Vicenzino, B. (2006). An endurance-strength training regime is effective in reducing myoelectric manifestations of cervical flexor muscle fatigue in females with chronic neck pain. *Clinical Neurophysiology: Official Journal of the International Federation of Clinical Neurophysiology*, 117(4), 828–837. <https://doi.org/10.1016/j.clinph.2005.12.025>

Fortin, M., & Battié, M. C. (2012). Quantitative paraspinal muscle measurements: intersoftware reliability and agreement using OsiriX and ImageJ. *Physical Therapy*, 92(6), 853–864. <https://doi.org/10.2522/ptj.20110380>

Fortin, M., Gibbons, L. E., Videman, T., & Battié, M. C. (2015). Do variations in paraspinal muscle morphology and composition predict low back pain in men? *Scandinavian Journal of Medicine & Science in Sports*, 25(6), 880–887. <https://doi.org/10.1111/sms.12301>

Fortin, M., Videman, T., Gibbons, L. E., & Battié, M. C. (2014). Paraspinal muscle morphology and composition: a 15-yr longitudinal magnetic resonance imaging study. *Medicine and Science in Sports and Exercise*, 46(5), 893–901. <https://doi.org/10.1249/MSS.0000000000000179>

França, D. L. M., Senna-Fernandes, V., Cortez, C. M., Jackson, M. N., Bernardo-Filho, M., & Guimarães, M. A. M. (2008a). Tension neck syndrome treated by acupuncture combined with physiotherapy: a comparative clinical trial (pilot study). *Complementary Therapies in Medicine*, 16(5), 268–277. <https://doi.org/10.1016/j.ctim.2008.02.006>

França, D. L. M., Senna-Fernandes, V., Cortez, C. M., Jackson, M. N., Bernardo-Filho, M., & Guimarães, M. A. M. (2008b). Tension neck syndrome treated by acupuncture combined with physiotherapy: a comparative clinical trial (pilot study). *Complementary Therapies in Medicine*, 16(5), 268–277. <https://doi.org/10.1016/j.ctim.2008.02.006>

Fryer, G., & Adams, J. H. (2011). Magnetic resonance imaging of subjects with acute unilateral neck pain and restricted motion: a prospective case series. *The Spine Journal: Official Journal of the North American Spine Society*, 11(3), 171–176. <https://doi.org/10.1016/j.spinee.2010.12.002>

Gandek, B., Ware, J. E., Aaronson, N. K., Apolone, G., Bjorner, J. B., Brazier, J. E., ... Sullivan, M. (1998). Cross-validation of item selection and scoring for the SF-12 Health Survey in nine countries: results from the IQOLA Project. *International Quality of Life Assessment. Journal of Clinical Epidemiology*, 51(11), 1171–1178.

Goo, M., Bpt, Kim, S.-G., & Jun, D. (2015). The ratio of change in muscle thickness between superficial and deep cervical flexor muscles during the craniocervical flexion test and a suggestion regarding clinical treatment of patients with musculoskeletal neck pain. *Journal of Physical Therapy Science*, 27(8), 2473–2475. <https://doi.org/10.1589/jpts.27.2473>

Gross, A., Kay, T. M., Paquin, J.-P., Blanchette, S., Lalonde, P., Christie, T., ... Cervical Overview Group. (2015). Exercises for mechanical neck disorders. *The Cochrane Database of Systematic Reviews*, 1, CD004250. <https://doi.org/10.1002/14651858.CD004250.pub5>

Harris, K. D., Heer, D. M., Roy, T. C., Santos, D. M., Whitman, J. M., & Wainner, R. S. (2005). Reliability of a measurement of neck flexor muscle endurance. *Physical Therapy*, 85(12), 1349–1355.

Hayashi, N., Masumoto, T., Abe, O., Aoki, S., Ohtomo, K., & Tajiri, Y. (2002). Accuracy of abnormal paraspinal muscle findings on contrast-enhanced MR images as indirect signs of unilateral cervical root-avulsion injury. *Radiology*, 223(2), 397–402. <https://doi.org/10.1148/radiol.2232010857>

Hill, J. C., Lewis, M., Sim, J., Hay, E. M., & Dziedzic, K. (2007). Predictors of poor outcome in patients with neck pain treated by physical therapy. *The Clinical Journal of Pain*, 23(8), 683–690. <https://doi.org/10.1097/AJP.0b013e3181468e67>

Hjermstad, M. J., Fayers, P. M., Haugen, D. F., Caraceni, A., Hanks, G. W., Loge, J. H., ... European Palliative Care Research Collaborative (EPCRC). (2011). Studies comparing Numerical Rating Scales, Verbal Rating Scales, and Visual Analogue Scales for assessment of pain intensity in adults: a systematic literature review. *Journal of Pain and Symptom Management*, 41(6), 1073–1093. <https://doi.org/10.1016/j.jpainsymman.2010.08.016>

Hodges, P., Holm, A. K., Hansson, T., & Holm, S. (2006). Rapid atrophy of the lumbar multifidus follows experimental disc or nerve root injury. *Spine*, 31(25), 2926–2933. <https://doi.org/10.1097/01.brs.0000248453.51165.0b>

Hoy, D. G., Protani, M., De, R., & Buchbinder, R. (2010). The epidemiology of neck pain. *Best Practice & Research. Clinical Rheumatology*, 24(6), 783–792. <https://doi.org/10.1016/j.berh.2011.01.019>

Hoy, D., March, L., Woolf, A., Blyth, F., Brooks, P., Smith, E., ... Buchbinder, R. (2014). The global burden of neck pain: estimates from the global burden of disease 2010 study. *Annals of the Rheumatic Diseases*, 73(7), 1309–1315. <https://doi.org/10.1136/annrheumdis-2013-204431>

Hush, J. M., Michaleff, Z., Maher, C. G., & Refshauge, K. (2009). Individual, physical and psychological risk factors for neck pain in Australian office workers: a 1-year longitudinal study. *European Spine Journal: Official Publication of the European Spine Society, the European Spinal Deformity Society, and the European Section of the Cervical Spine Research Society*, 18(10), 1532–1540. <https://doi.org/10.1007/s00586-009-1011-z>

James, G., & Doe, T. (2010). The craniocervical flexion test: intra-tester reliability in asymptomatic subjects. *Physiotherapy Research International: The Journal for Researchers and Clinicians in Physical Therapy*, 15(3), 144–149. <https://doi.org/10.1002/pri.456>

Kay, T. M., Gross, A., Goldsmith, C. H., Rutherford, S., Voth, S., Hoving, J. L., ... Santaguida, P. L. (2012). Exercises for mechanical neck disorders. *The Cochrane Database of Systematic Reviews*, (8), CD004250. <https://doi.org/10.1002/14651858.CD004250.pub4>

Keefe, F. J., Rumble, M. E., Scipio, C. D., Giordano, L. A., & Perri, L. M. (2004). Psychological aspects of persistent pain: current state of the science. *The Journal of*

La Touche, R., Paris-Alemany, A., Gil-Martínez, A., Pardo-Montero, J., Angulo-Díaz-Parreño, S., & Fernández-Carnero, J. (2015a). Masticatory sensory-motor changes after an experimental chewing test influenced by pain catastrophizing and neck-pain-related disability in patients with headache attributed to temporomandibular disorders. *The Journal of Headache and Pain*, 16, 20. <https://doi.org/10.1186/s10194-015-0500-1>

La Touche, R., Paris-Alemany, A., Gil-Martínez, A., Pardo-Montero, J., Angulo-Díaz-Parreño, S., & Fernández-Carnero, J. (2015b). Masticatory sensory-motor changes after an experimental chewing test influenced by pain catastrophizing and neck-pain-related disability in patients with headache attributed to temporomandibular disorders. *The Journal of Headache and Pain*, 16, 20. <https://doi.org/10.1186/s10194-015-0500-1>

Lee, H., Nicholson, L. L., & Adams, R. D. (2005). Neck muscle endurance, self-report, and range of motion data from subjects with treated and untreated neck pain. *Journal of Manipulative and Physiological Therapeutics*, 28(1), 25–32. <https://doi.org/10.1016/j.jmpt.2004.12.005>

Lindstrøm, R., Schomacher, J., Farina, D., Rechter, L., & Falla, D. (2011). Association between neck muscle coactivation, pain, and strength in women with neck pain. *Manual Therapy*, 16(1), 80–86. <https://doi.org/10.1016/j.math.2010.07.006>

Luo, X., George, M. L., Kakouras, I., Edwards, C. L., Pietrobon, R., Richardson, W., & Hey, L. (2003). Reliability, validity, and responsiveness of the short form 12-item survey (SF-12) in patients with back pain. *Spine*, 28(15), 1739–1745. <https://doi.org/10.1097/01.BRS.0000083169.58671.96>

Marquié, L., Duarte, L. R., Mariné, C., Lauque, D., & Sorum, P. C. (2008). How patients and physicians rate patients' pain in a French emergency department using a verbally administered numerical rating scale and a visual analog scale. *Acute Pain*, 10(1), 31–37. <https://doi.org/10.1016/j.acpain.2008.01.003>

McLean, S. M., May, S., Klaber-Moffett, J., Sharp, D. M., & Gardiner, E. (2010). Risk factors for the onset of non-specific neck pain: a systematic review. *Journal of Epidemiology and Community Health*, 64(7), 565–572. <https://doi.org/10.1136/jech.2009.090720>

Mehlum, I. S., Veiersted, K. B., Waersted, M., Wergeland, E., & Kjuus, H. (2009). Self-reported versus expert-assessed work-relatedness of pain in the neck, shoulder, and arm. *Scandinavian Journal of Work, Environment & Health*, 35(3), 222–232.

Miller, J., Gross, A., D'Sylva, J., Burnie, S. J., Goldsmith, C. H., Graham, N., ... Hoving, J. L. (2010). Manual therapy and exercise for neck pain: A systematic review. *Manual Therapy*. <https://doi.org/10.1016/j.math.2010.02.007>

Norrbrand, L., Fluckey, J. D., Pozzo, M., & Tesch, P. A. (2008). Resistance training using eccentric overload induces early adaptations in skeletal muscle size. *European Journal of Applied Physiology*, 102(3), 271–281. <https://doi.org/10.1007/s00421-007-0583-8>

Oha, K., Animägi, L., Pääsuke, M., Coggon, D., & Merisalu, E. (2014). Individual and work-related risk factors for musculoskeletal pain: a cross-sectional study among Estonian computer users. *BMC Musculoskeletal Disorders*, 15, 181. <https://doi.org/10.1186/1471-2474-15-181>

O'Leary, S., Fagermoen, C. L., Hasegawa, H., Thorsen, A.-S. S., & Van Wyk, L. (2017). Differential Strength and Endurance Parameters of the Craniocervical and Cervicothoracic Extensors and Flexors in Healthy Individuals. *Journal of Applied Biomechanics*, 33(2), 166–170. <https://doi.org/10.1123/jab.2016-0168>

O'Leary, S., Falla, D., & Jull, G. (2011). The relationship between superficial muscle activity during the cranio-cervical flexion test and clinical features in patients with chronic neck pain. *Manual Therapy*, 16(5), 452–455.

<https://doi.org/10.1016/j.math.2011.02.008>

O'leary, S., Jull, G., Van Wyk, L., Pedler, A., & Elliott, J. (2015). Morphological changes in the cervical muscles of women with chronic whiplash can be modified with exercise-A pilot study. *Muscle & Nerve*, 52(5), 772-779. <https://doi.org/10.1002/mus.24612>

Munro, B.H. (2005) *Statistical Methods for Health Care Research*, Lippincott Williams & Wilkins, Philadelphia, Pa, USA. Palmlöf, L., Holm, L. W., Alfredsson, L., Magnusson, C., Vingård, E., & Skillgate, E. (2016). The impact of work related physical activity and leisure

physical activity on the risk and prognosis of neck pain - a population based cohort study on workers. *BMC Musculoskeletal Disorders*, 17, 219. <https://doi.org/10.1186/s12891-016-1080-1>

Parazza, S., Vanti, C., O'Reilly, C., Villafañe, J. H., Tricás Moreno, J. M., & Estébanez De Miguel, E. (2014). The relationship between cervical flexor endurance, cervical extensor endurance, VAS, and disability in subjects with neck pain. *Chiropractic & Manual Therapies*, 22(1), 10. <https://doi.org/10.1186/2045-709X-22-10>

Park, J., Hur, J., & Ko, T. (2015). Influence of pressure changes on recruitment pattern and neck muscle activities during Cranio-Cervical Flexion Tests (CCFTs). *Journal of Back and Musculoskeletal Rehabilitation*, 28(2), 255-259. <https://doi.org/10.3233/BMR-140512>

Patel, K. C., Gross, A., Graham, N., Goldsmith, C. H., Ezzo, J., Morien, A., & Peloso, P. M. J. (2012). Massage for mechanical neck disorders. *The Cochrane Database of Systematic Reviews*, (9), CD004871. <https://doi.org/10.1002/14651858.CD004871.pub4>

Peloso, P. M., Khan, M., Gross, A. R., Carlesso, L., Santaguida, L., Lowcock, J., ... Shi, Q. (2013). Pharmacological Interventions Including Medical Injections for Neck Pain: An Overview as Part of the ICON Project. *The Open Orthopaedics Journal*, 7, 473-493. <https://doi.org/10.2174/1874325001307010473>

Pool, J. J. M., Ostelo, R. W. J. G., Knol, D., Bouter, L. M., & de Vet, H. C. W. (2010). Are psychological factors prognostic indicators of outcome in patients with sub-acute neck pain? *Manual Therapy*, 15(1), 111-116. <https://doi.org/>