

## Doloplus 2

**Description:** The Doloplus 2 is a comprehensive tool for assessing pain in nonverbal elders. The Doloplus 2 is a shortened version of the Doloplus using the same three subscales (i.e., somatic, psychomotor, psychosocial) of behavior to assess pain in nonverbal older adults.

**Psychometric testing:** A 2017 systematic review evaluating the psychometric properties of the Doloplus-2 concluded that the tool has adequate reliability but needed further testing in validity. Internal consistency for the total scale has ranged from Cronbach's alpha = .67 to .84. Test-retest has ranged from ICC = .62 to .98. Inter-rater reliability for the total scale has ranged from .73 to .97. Construct validity has varied based on factor analysis with some studies reporting three factors based on the three subscales and other studies reporting one factor representing one construct. The Doloplus 2 has been able to successfully identify the presence of pain between no pain and pain present groups. However, it has shown low or no significant correlations with the PACSLAC, PAINAD, the Facial Action Coding System, the Visual Analogue Scale, and the Numeric Rating Scale. Only a high correlation has been found with the Alabama Birmingham Pain Behavioral Scale.

**Scoring and Interpretation:** The tool consists of three subscales and a total of 10 items: Somatic reactions (5 items), Psychomotor reactions (2 items) and Psychosocial reactions (3 items). Each item is leveled with four behavioral descriptions representing increasing severity of pain rated from 0 to 3. Individual item scores are summed to

arrive at a total score ranging from 0 to 30 points. Five points is the threshold indicating pain.

**Languages and Settings:** The Doloplus 2 is a French tool developed for the multidimensional assessment of pain in nonverbal elders. The Doloplus 2 has been translated and validated in English, Italian, Portuguese, Spanish, Dutch, Japanese and Chinese. It has been tested in diverse populations and settings including acute care, psychogeriatric wards, long term care, and community dwelling older adults in Australia, Canada, France, Japan, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, Taiwan, and the United Kingdom.

**Feasibility/Clinical Utility:** The 10 items on Doloplus 2 have been reported to take a minimum of 5 minutes and maximum of 12 minutes to complete. The tool has been tested with nurses, nursing assistants, physicians, and occupational therapists. In one study, nursing assistants were found to report more pain cues than nurses. Validity with the numeric rating scale increased when the Doloplus 2 was administered by a specialized geriatric nurse.

**Summary/Critique:** The Doloplus-2 has been translated into multiple languages and has indicated adequate reliability across a variety of settings. However, validity of the Doloplus 2 is variable. The scale may overestimate pain because it measures behaviors which may not be due to pain. Hadjistavropoulos et al. (2008) challenged the extent to which the items measure pain because they are also related to the presence and severity of delirium, depression, and dementia severity. Additionally, the Doloplus-2 requires thorough training and geriatric knowledge as well as knowledge of previous

behaviors which may limit its use with none advanced practitioners. Further study or description regarding the use of Doloplus 2 in American populations is needed. The Doloplus 2 has now been shortened into the Doloshort.

**Contact address for tool developer:**

The Doloplus Association  
[www.doloplus.fr/en/home/](http://www.doloplus.fr/en/home/)

**Sources of evidence:**

Doloplus-2 website: <http://www.doloplus.fr/en/home/>

Holen, J., Saltvedt, I., Fayers, P., Bjornnes, M., Stenseth, G., Hval, B., et al (2005). The Norwegian Doloplus-2, a tool for behavioral pain assessment: translation and pilot validation in nursing home residents with cognitive impairment. *Palliative Medicine*, 19, 411-7.

Lefebvre-Chapiro, S. & the Doloplus-2 group. (2001). The Doloplus-2 scale – evaluating pain in the elderly. *European Journal of Palliative Care*, 8(5), 191-194.

Pautex, S. Michon, A., Guedira, M. Emond, H., Le Lous, P., Samaras, D. et al (2006). Pain in severe dementia: Self-assessment or observational scale? *JAGS*, 54, 1040-1045.

Pautex, S., Herrmann, F., Michon, A., Giannakopoulos, P., Gold, G. (2007). Psychometric properties of the doloplus-2 observational pain scale and comparison to self-assessment in hospitalized elderly. *Clinical Journal of Pain*, 23(9), 774-9.

Zwakhalen, S., Hamers, J., & Berger, M. (2006). The psychometric quality and clinical usefulness of three pain assessment tools for elderly people with dementia. *Pain*, 126, 210-220.

Ando, C., & Hishinuma, M. (2010). Development of the japanese DOLOPLUS-2: A pain assessment scale for the elderly with Alzheimer's disease. *Psychogeriatrics : The Official Journal of the Japanese Psychogeriatric Society*, 10(3), 131-137. The aims of this study were to develop a Japanese version of the DOLOPLUS-2 and to apply it to elderly patients with Alzheimer's disease.

Chen, Y. H., Lin, L. C., & Watson, R. (2010). Evaluation of the psychometric properties and the clinical feasibility of a chinese version of the doloplus-2 scale among cognitively impaired older people with communication difficulty. *International Journal of Nursing Studies*, 47(1), 78-88. The study was undertaken to translate the French version of the

Doloplus-2 scale into Chinese and to evaluate the psychometric properties and the clinical feasibility of the translated instrument.

Hadjistavropoulos, T., Voyer, P., Sharpe, D., Verreault, R., & Aubin, M. (2008). Assessing pain in dementia patients with comorbid delirium and/or depression. *Pain Management Nursing : Official Journal of the American Society of Pain Management Nurses*, 9(2), 48-54. This study assessed pain using the Doloplus-II and examined the extent to which each of its items were also predictive of delirium, depression, and dementia severity.

Holen, J. C., Saltvedt, I., Fayers, P. M., Hjermstad, M. J., Loge, J. H., & Kaasa, S. (2007). Doloplus-2, a valid tool for behavioural pain assessment? *BMC Geriatrics*, 7, 29. To test the criterion validity and inter-rater reliability of the Doloplus-2, and to explore a design for validations of behavioral pain assessment tools in Norway.

Pautex, S., Herrmann, F. R., Michon, A., Giannakopoulos, P., & Gold, G. (2007). Psychometric properties of the doloplus-2 observational pain assessment scale and comparison to self-assessment in hospitalized elderly. *The Clinical Journal of Pain*, 23(9), 774-779. This study reported the psychometric properties of the observational Doloplus-2 scale using the visual analog scale (VAS) pain score as a gold standard and to evaluate its performance. Authors suggest a shortened version of the Doloplus-2.

Pautex, S., Herrmann, F. R., Le Lous, P., & Gold, G. (2009). Improving pain management in elderly patients with dementia: Validation of the doloshort observational pain assessment scale. *Age and Ageing*, 38(6), 754-757. This study examined the validity of Doloshort and to confirm its ease of use.

Pautex, S., Michon, A., Guedira, M., Emond, H., Le Lous, P., Samaras, D., et al. (2006). Pain in severe dementia: Self-assessment or observational scales? *Journal of the American Geriatrics Society*, 54(7), 1040-1045. This study compared 3 self-assessment scales with doloplus-guided observation .

Pickering, G., Gibson, S. J., Serbouti, S., Odetti, P., Ferraz Goncalves, J., Gambassi, G., et al. (2010). Reliability study in five languages of the translation of the pain behavioural scale doloplus. *European Journal of Pain (London, England)*, 14(5), 545.e1-545.10. This study evaluated psychometric properties of the Doloplus scale in five languages.

Torvik, K., Kaasa, S., Kirkevold, O., Saltvedt, I., Holen, J. C., Fayers, P., et al. (2010). Validation of doloplus-2 among nonverbal nursing home patients--an evaluation of doloplus-2 in a clinical setting. *BMC Geriatrics*, 10, 9. The purposes of this study were to examine the use of Doloplus-2 in a Norwegian nonverbal nursing home population, and to evaluate its reliability and validity by comparing registered nurses' estimation of pain with Doloplus-2 scores.

Chen, Y. H., Lin, L. C., & Watson, R. (2010). Validating nurses' and nursing assistants' report of assessing pain in older people with dementia. *Journal of clinical nursing*, 19(1-2), 42-52.

Rostad, H. M., Utne, I., Grov, E. K., Puts, M., & Halvorsrud, L. (2017). Measurement properties, feasibility and clinical utility of the Doloplus-2 pain scale in older adults with cognitive impairment: a systematic review. *BMC geriatrics*, 17(1), 257.

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