

## Clinical Article

# Disability Evaluation of the Pain : The Present and Prospect in Korea

Kyeong-Seok Lee, M.D., Jai-Joon Shim, M.D., Seok-Mann Yoon, M.D., Jae-Won Doh, M.D., Il-Gyu Yun, M.D., Hack-Gun Bae, M.D.

Department of Neurosurgery, Soonchunhyang University Cheonan Hospital, Cheonan, Korea

**Objective :** Pain has long been regarded as a subjective symptom. Recently, however, some regard a type of intractable chronic pain as a disease. Furthermore, chronic persistent pain becomes a cause of permanent impairment (PI). In 6th edition, the American Medical Association (AMA) Guides has rated the pain as a PI. In Korea, pain has been already been rated as a PI. Here, we examined the present status and the prospect of disability evaluation for the pain in Korea.

**Methods :** Pain can be rated as a PI by the Workmen's Compensation Insurance Act (WCIA) and Patriots and Veterans Welfare Corporation Act (PVWCA) in Korea. We examined the definition, diagnostic criteria and grades of the pain related disability (PRD) in these two acts. We also examined legal judgments, which were made in 2005 for patients with severe pain. We also compared the acts and the judgments to the criteria of the 6th AMA Guides.

**Results :** The PRD can be rated as one of the 4 grades according to the WCIA. The provisions of the law do not limit the pain only for the complex regional pain syndrome (CRPS). The PRD can be rated as one of the 3 grades by the PVWCA. If there were objective signs such as osteoporosis, joint contracture and muscle atrophy corresponding to the CRPS, the grade is rated as 6. When the pain always interferes with one's job except easy work, the grade is rated as high as 5. In Korea, judicial precedents dealt the pain as a permanent disability in 2005.

**Conclusion :** Although there were no objective criteria for evaluation of the PRD, pain has been already rated as a PI by the laws or judicial precedents, in Korea. Thus, we should regulate the Korean criteria of PRD like the AMA 6th edition. We also should develop the objective tools for evaluation of the PRD near in future.

**KEY WORDS :** Pain · Disability evaluation · Treatment outcome · Craniocerebral trauma.

## INTRODUCTION

Traditionally, pain has been regarded as a subjective symptom, not a disease. Recently, some reported that persistent pain should be considered as a disease state of the nervous system, not merely a symptom of some other disease conditions<sup>2,6,17</sup>. Furthermore, chronic persistent pain becomes a cause of permanent impairment. In 6th edition, the American Medical Association (AMA) Guides have rated the pain as a permanent impairment<sup>1</sup>. Interestingly, the pain has been already rated as a permanent impairment in Korea. In this study, we examined the present status and the prospect of disability evaluation for the pain in Korea.

- Received : January 23, 2009 • Accepted : May 8, 2009
- Address for reprints : Kyeong-Seok Lee, M.D.  
Department of Neurosurgery, Soonchunhyang University Cheonan Hospital, 8 Soonchunhyang 2-gil, Cheonan 330-721, Korea  
Tel : +82-41-570-3652, Fax : +82-41-572-9297  
E-mail : ksleens@sch.ac.kr

## MATERIALS AND METHODS

Pain can be rated as a permanent impairment by the Workmen's Compensation Insurance Act (WCIA) and Patriots and Veterans Welfare Corporation Act (PVWCA) in Korea. We examined the definition, diagnostic criteria and grades of the disability of pain in these two acts. We also examined legal judgments, which were made in 2005 for patients with severe pain. We also compared the acts and the judgements to the 6th AMA Guides.

## RESULTS

### Pain related disability by the Workmen's Compensation Insurance Act

The pain related disability (PRD) can be rated as one of the 4 grades (7, 9, 12, and 14th grades) according to the WCIA (Table 1).

**Table 1.** Pain related disability by the Workmen's Compensation Insurance Act

Grades	Criteria	Labor loss
7	Pain always interferes with one's job except easy work	60%
9	Workable, but pain limits range of jobs significantly	40%
12	Workable, but pain often interferes with one's work	15%
14	Workable, but pain or abnormal sensory is present	5%

**Table 2.** Pain related disability by the Patriots and Veterans Welfare Corporation Act

Grades	Criteria	Labor loss
5	Pain always interferes with one's job except easy work	80%
6	Workable, but pain limits range of jobs significantly, with objective signs such as osteoporosis, joint contracture and muscle atrophy corresponding to the CRPS	70%
7	Workable, but pain limits range of jobs significantly, with objective signs on physical examination or tests corresponding to the CRPS	60%
	Workable, but often severe pain interferes with one's work	

CRPS : complex regional pain syndrome

The pain should be a neuralgia result from trauma or other causes of the cranial or spinal nerves. According to the provisions of the law, it does not limit the pain only for the complex regional pain syndrome (CRPS). When the pain always interferes with one's job except easy work, the grade is rated as 7. When the pain often interferes with one's work, the grade is 12. For the causalgia, the same criteria are applied. When the pain or abnormal sensory is simply present, not significantly interferes with the work, the grade is rated as 14.

PRD is usually determined by a consultant doctor or an advisory committee. However, there were no firm requirements of any objective tests or objective evidences.

**Pain related disability by the Patriots and Veterans Welfare Corporation Act**

The PRD can be rated as one of the 3 grades (5, 6, and 7th grades) according to the PVWCA (Table 2).

According to the provisions of the law, the pain should be a neuralgia result from trauma or other causes of the cranial or spinal nerves. However, the pain is usually limited to the CRPS. If there were objective signs such as osteoporosis, joint contracture and muscle atrophy corresponding to the CRPS, the grade is rated as 6. When the pain always interferes with one's job except easy work, the grade is rated as high as 5, which is equivalent to 80% loss of workability.

**Judicial precedents**

In cases of car accidents, the disability was assessed by McBride's system in Korea. Pain had been ignored, since it was not a measurable disability in the McBride's system. In 2005, there were judicial precedents dealt the pain as a permanent disability (Seoul Economic News 2005-11-13).

In these precedents, the disability due to the CRPS was rated around 40-50% loss of workability probably based on the AMA Guides 5th edition.

**DISCUSSION**

The PRD can be rated as one of the 4 grades by the WCIA. It can be rated as one of the 3 grades by the PVWCA. The rate of labor loss due to the PRD can be from 5% to 80%, in Korea. For the disability assessment, the pain should be a neuralgia result from trauma or other causes of the cranial or spinal nerves. However, the laws do not limit the kinds of pain only for

the CRPS. Not only for the causalgia, reflex sympathetic dystrophy, CRPS, or any kinds of pain can be assessed, when the pain limits normal labor. There were no firm requirements of any objective tests or objective evidences. So, the pain disability is usually determined by a consultant doctor or an advisory committee.

In AMA Guides 6th edition, there are 4 categories and 11 objective diagnostic criteria points for CRPS : 1) mottled or cyanotic skin color, 2) cool skin temperature, 3) edema, 4) dry or overly moist skin, 5) smooth and non-elastic skin texture, 6) soft tissue atrophy, 7) joint stiffness and decreased passive motion, 8) nail changes, 9) hair growth changes, 10) radiographic trophic bone changes or osteoporosis, and 11) bone scan consistent with CRPS<sup>1)</sup>. The number of points determines the impairment rate of the CRPS. However, if the number is less than 4, the impairment rate is 0%. Although the number of objective signs may increase the accuracy of the diagnosis, not the impairment, of the CRPS, it can be used as an alternative measurement of the immeasurable subjective symptom. The rate of physical impairment due to the PRD can be from 0% to 40% (for the lower extremity) or 60% (for the upper extremity), by the AMA 6th edition. According to the provisions of the PVWCA, the pain should be corresponding to the CRPS for grade 6 and 7. As the objective signs of the CRPS, osteoporosis, joint contracture and muscle atrophy were presented. Any patients with CRPS can be rated as grade 6, when there are any of these 3 signs. According to AMA Guides 6th edition, a sign is counted only if it is observed and documented at time of the impairment evaluation. We do not have such a provision in the PVWCA. When the pain always interferes with one's job except easy work, the grade is rated as high as 5 by the

PVWCA, which is equivalent to 80% loss of workability.

Pain is defined by the International Association for the Study of Pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”<sup>13</sup>. Although the pain has been regarded as a symptom, some have suggested that persistent pain should no longer be viewed as a symptom but should be considered as a disease in its own right<sup>2,6,17</sup>. A disease is a pathological process, a disorder with a specific cause and recognizable signs and symptoms, while an illness is a feeling, an experience of unhealth which is entirely personal, interior to the person of the patient<sup>10</sup>. To be a disease, there should be objectivity about disease which doctors are able to see, touch, measure, and smell. Although some reported that persistent pain should be considered as a disease, a key feature of pain is its subjectivity<sup>11</sup>. Furthermore, psychological factors such as more cumulative traumatic life events, higher levels of depression in the early stages of a new pain episode, and early beliefs that pain may be permanent significantly contribute to increased severity of subsequent pain and disability<sup>4,23</sup>. Psychological factors have been reported to be predictive of long-term disability for many pain syndromes as well as for pain severity, emotional distress, and treatment seeking<sup>16,19</sup>. For example, in one study<sup>5</sup>, psychosocial variables accounted for 59% of the variance in disability associated with chronic pain. Although grading of the chronic pain may be possible by measuring the days in pain in a fixed time period<sup>22</sup>, the intensity of the chronic pain may fluctuate from time to time. It is impossible to measure the intensity of the chronic pain by any objective tests, at present. Intractable pain may completely incapacitate the patients for a while. However, does it persist permanently, through out the rest of their lives? There were long-term follow-up studies<sup>9,21</sup> of CRPS that most of the patients were still significantly limited in activities of daily living without great change. If such an incapacitating pain is persisting during the rest of their lives, how can you image that their life expectancy may reach the average years? A particularly controversial body of law involving CRPS is found in the “disability” settings<sup>20</sup>. A CRPS diagnosis has the potential to escalate into a “disability” under the Americans with Disabilities Act or the Social Security Act, or a “serious impairment” under various other statutory schemes, and as such, can drastically change the legal consequences in a given controversy. Courts and administrative bodies in these settings have grappled with the difficulties of a subjective CRPS diagnosis, particularly because “severe and persistent” pain, on its own, has not been traditionally recognized as a “disability” unto itself. In 2005, there was a judicial precedent dealt the pain

after an in-car accident as a permanent disability in Korea. In this precedent, the ruling described that although the victim had to prove the causal relation of the disease, the burden of proof was on the defendant, when the causation is hard to prove clearly even by the current science.

Not only psychological factors, but also malingering is a potential factor in the management of patients with pain<sup>3</sup>. Malingering and exaggeration are common among people who litigate for injuries involving mild head injury, chronic pain, and posttraumatic stress disorder. The detection of malingered pain is often extremely difficult, in large part because the experience of pain is so subjective<sup>7</sup>. Even in cases of malingering, many doctors (41.7%) rarely used the term ‘malingering’ and 12.5% of them never used the term. Most respondents (>80%) instead stated that the test results are invalid, inconsistent with the severity of the injury or indicative of exaggeration<sup>18</sup>. The rate of malingering among personal injury claimants is not known with any precision, with published estimates ranging from 20-59%<sup>10</sup>. A recent survey of psychologists who evaluate pain patients involved in litigation estimated that approximately thirty percent were engaging in exaggeration or malingering<sup>14</sup>. We do not have any direct data on the incidence of exaggeration or malingering in Korea. In a report from the Korean Rare Disease Center, the number of patients diagnosed as causalgia was 8,027 in 2005. According to the Korean Financial Supervisory Service Report,<sup>8</sup> the detected amount of insurance fraud was 2,045,000,000,000 won in 2007. The amount of reparation for the first judicial precedent for CRPS in 2005 was 337,000,000 won. After the judicial precedent in 2005, the pain after an in-car accident became a permanent disability. Accessibility of online information also makes it easier for people feigning illnesses: malingerers, those with factitious disorders such as “Munchausen syndrome,” or drug abusers buying for pain medications, to get details about their supposed symptoms<sup>15</sup>. The DSM-IV defines malingering as the intentional feigning or exaggeration of physical or psychological symptoms, motivated by external incentives such as avoidance of work or military service, receipt of financial compensation, evasion of criminal prosecution, or procurement of prescription drugs. Although malingering is a conscious voluntary act or set of actions made with the intention of obtaining personal advantage, doctors should be aware that malingering for compensation of various types may be unplanned. The patient may seize upon an incidental workplace or motor vehicle accident as a fortuitous opportunity for financial gain<sup>12</sup>. The wide availability of internet in Korea may have abundant guidance on how to convincingly display pain and disability.

Pain has been already rated as a disability in Korea by the

laws or judicial precedents. From 2005, the National Health Insurance program of Korea covers the spinal cord stimulator for CRPS, although there was limited evidence in favor of cord stimulation for CRPS Type 1<sup>11</sup>. Since the Korean laws do not have strict criteria for the disability evaluation of the pain, the incidence of exaggeration or malingering would be higher in Korea than in the USA. We should adapt the criteria of the AMA 6th edition for the evaluation of PRD, in Korea, now. It is necessary to develop an objective scientific criteria for evaluation of the PRD as soon as possible.

## CONCLUSION

Pain has been already rated as a permanent impairment by the laws or judicial precedents, in Korea. However, the Korean laws do not have objective criteria for evaluation of the PRD. We should use the criteria of the AMA 6th edition for the evaluation of PRD, in Korea. We should also investigate on the objective tools for evaluation of the PRD.

## References

1. American Medical Association : Guides to the Evaluation of Permanent Impairment, ed 6. Chicago : American Medical Association, 2008
2. Basbaum AI : Spinal mechanisms of acute and persistent pain. *Reg Anesth Pain Med* 24 : 59-67, 1999
3. Bianchini KJ, Greve KW, Glynn G : On the diagnosis of malingered pain-related disability : lessons from cognitive malingering research. *Spine J* 5 : 404-417, 2005
4. Boyd KM : Disease, illness, sickness, health, healing and wholeness : exploring some elusive concepts. *Med Humanit* 26 : 9-17, 2000
5. Burton AK, Tillotson KM, Main CJ, Hollis S : Psychosocial predictors of outcome in acute and subacute low back trouble. *Spine* 20 : 722-728, 1995
6. Cousins M : Persistent pain : a disease entity. *J Pain Symptom Manage* 33 : S4-S10, 2007
7. Craig KD, Badali MA : Introduction to the special series on pain deception and malingering. *Clin J Pain* 20 : 377-382, 2004
8. Financial Supervisory Service. Seoul : 2007 report on the insurance fraud. [cited 2009 Jan 07]. Available from: [http://www.fss.or.kr/kr/nws/nbd/bodobbbs\\_l.jsp?gubun=01/](http://www.fss.or.kr/kr/nws/nbd/bodobbbs_l.jsp?gubun=01/)
9. Geertzen JH, Dijkstra PU, van Sonderen EL, Groothoff JW, ten Duis HJ, Eisma WH : Relationships between impairments, disability and handicap in reflex sympathetic dystrophy patients. A long term follow-up study. *Clin Rehabil* 12 : 402-412, 1998
10. Gurriel J, Fremouw W : Assessing malingered posttraumatic stress disorder : a critical review. *Clin Psychol Rev* 23 : 881-904, 2003
11. Mailis-Gagnon A, Furlan AD, Sandoval JA, Taylor R : Spinal cord stimulation for chronic pain. *Cochrane Database Syst Rev* : CD 003783, 2004
12. McDermott BE, Feldman MD : Malingering in the medical setting. *Psychiatr Clin North Am* 30 : 645-662, 2007
13. Merskey H, Bogduk N : Classification of chronic pain : descriptions of chronic pain syndromes and definitions of pain terms, ed 2. Seattle : IASP, In Press 1994
14. Mittenberg W, Patton C, Canyock EM, Condit DC : Base rates of malingering and symptom exaggeration. *J Clin Exp Neuropsychol* 24 : 1094-1102, 2002
15. Patel RM : How the internet is altering medical journalism and education. *Acad Psychiatry* 25 : 134-142, 2001
16. Perkins FM, Kehler H : Chronic pain as an outcome of surgery. A review of predictive factors. *Anesthesiology* 93 : 1123-1133, 2000
17. Siddall PJ, Cousins MJ : Persistent pain as a disease entity : implications for clinical management. *Anesth Analg* 99 : 510-520, 2004
18. Slick DJ, Tan JE, Strauss EH, Hultsch DF : Detecting malingering : a survey of experts' practices. *Arch Clin Neuropsychol* 19 : 465-473, 2004
19. Turk DC, Okifuji A : Psychological factors in chronic pain : evolution and revolution. *J Consult Clin Psychol* 70 : 678-690, 2002
20. Turner J : Pain and disability. Philadelphia : [cited 2009 Jan 07]. Available from : <http://www.jameswtturnerjr.com/cprs.pdf>
21. Vaneker M, Wilder-Smith OH, Schrombges P, Oerlemans HM : Impairments as measured by ISS do not greatly change between one and eight years after CRPS 1 diagnosis. *Eur J Pain* 10 : 639-644, 2006
22. Von Korff M, Ormel J, Keefe FJ, Dworkin SF : Grading the severity of chronic pain. *Pain* 50 : 133-149, 1992
23. Young Casey C, Greenberg MA, Nicassio PM, Harpin RE, Hubbard D : Transition from acute to chronic pain and disability : a model including cognitive, affective and trauma factors. *Pain* 134 : 69-79, 2008