

## Reduction of musculo-skeletal disorders through application of work surveillance programme in forestry sector

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■ **ABSTRACT** : MSDs occur in certain industries and occupations which rate up to three or four times higher than the overall frequency. Musculo-skeletal disorders generally are generally common among the forestry workers who perform very high labour demanding activities. The main purpose of this review article is to create awareness among the workers to reduce their MSD's level by appropriate use of ergonomic medical surveillance programmes.

■ **KEY WORDS** : Ergonomics, Medical surveillance programs, Musculo-skeletal disorders, Forestry workers

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The term “musculoskeletal disorders” denotes health problems of the locomotors apparatus, *i.e.* of body's muscles, joints, tendons, ligaments, bones and nerves. Most work-related MSD and WRULD are cumulative disorders, resulting from repeated exposure to high or low intensity loads, from repetitive movements and from vibrating tools utilisation over a long period of time: however, MSD and WRULD can also be acute traumas, such as fractures, that occur during an accident. Different groups of factors may contribute to develop these pathologies, including physical or biomechanical factors and organisational and psychosocial factors (Waters, 2004). High manual work load can therefore cause MSDs amongst the loggers (Ashby *et al.*, 2001). This pathology risk increases with the component ‘vibration’ induced by chainsaws, tractors, skidders, harvester and other machineries (Bovenzi, 2003). In fact, both the WBV (Whole body vibration) and the HAV (hand arm vibration) have been detected as important risk factors which may cause MSDs and they must be strictly controlled. Also upper limb movements need attention: the odds ratios for neck and shoulder symptoms were between 2.3 and 4 among 215 forest machines operators. Moreover, a study conducted over 909

forest workers showed that 16 per cent had some kind of diagnoses in the locomotor system (Lewark, 2005). The same study showed that musculo-skeletal disorders in loggers tend to cause longer sick leaves than accidents.

Work-related musculo-skeletal disorders (WMSDs) have become a major problem in many industrialized country (Hagberg *et al.*, 1995) including India. These disorders have caused a considerable human suffering and are also economically very costly, because of reduced working capacity and lessened production. The Scientific Committee for Musculo-skeletal Disorders of the International Health (ICOH) recognized WMSDs as a wide range of inflammatory and degenerative disease, and disorders that result in pain and functional impairment and may affect the body's soft tissues, including damage to the tendons, tendon sheaths, muscles and nerves of hands, wrists, elbows, shoulders, neck and back.

Musculo-skeletal disorders include all forms of ill – health ranging from light, transitory disorder to irreversible, disabling injuries. Work-related musculo-skeletal disorder is the disorder to which the work environment and the performance of work contribute significantly and that are made worse or longer