New Zealand Nurses Organisation

Submission to the Transport and Industrial Relations Select Committee

On the

Injury Prevention, Rehabilitation and Compensation Amendment Bill

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EXECUTIVE SUMMARY

1. The New Zealand Nurses Organisation (NZNO) welcomes the opportunity to comment on this Injury Prevention, Rehabilitation and Compensation and Amendment (IPRC) Bill.

2. NZNO is the leading professional body of nurses and nursing union in Aotearoa New Zealand, with over 43 000 members, including nurses midwives and allied health care workers. This submission is informed by feedback from members working for private and public providers, who are experienced with Accident Compensation Corporation (ACC) claims, services and assessments, from both a consumer and occupational perspective; and from several expert staff and members who are actively engaged on ACC Committees and Advisory groups.

3. NZNO's manifesto states our commitment to a publicly funded injury prevention, rehabilitation and accident compensation scheme, which is an integral part of the universally affordable and accessible public health care system most New Zealanders subscribe to (NZNO, 2008).

4. NZNO **does not** support this bill.

5. However we **do** support improved flexibility in the Accident Compensation Scheme (ACC Scheme), better use of public and employer funds, integrated services between government and other agencies including professional organisations, unions and providers, *consistent* financial reporting and improved accountability.

6. NZNO is a member of the New Zealand Council of Trade Unions and the ACC Futures Coalition and fully supports the principles and particulars of the written and oral submissions they have made to the Committee, namely that:

    - the social contract on which the ACC Scheme was founded, giving up the right to sue for injury in return for a no-fault comprehensive statutory scheme, is breached by this bill;

- the premise on which it is based - that of full funding by 2019 – is fundamentally flawed; and
- the stated objective of facilitating the containment of costs is both a false economy in health matters relating to injury, and highly unlikely to be achieved with this Bill.

7. Accordingly, this submission is limited to conveying the experience and insight of nurses, who comprise the largest group of health professionals delivering frontline services in all health settings, regarding the potential negative impact of this Bill, and suggesting alternative means of containing costs through improved outcomes.

8. Though there are strong ethical arguments to support the ACC scheme, we believe it has enjoyed bipartisan support for 37 years because, as the ACC Scheme Review (2008) conducted by PricewaterhouseCoopers showed, it is *fiscally prudent* to protect the government's investment in its people, by maintaining their health and ability to work and by reducing the risk of dependency. (We also note that the Report concluded that ACC provided a better, cheaper service than private providers.)

9. Quite properly, there has been a consistent drive to improve the efficiency and effectiveness of ACC. Significant gains have been made with the development of systematic programmes, training, and equipment for the prevention of injury, and integrated health and rehabilitation services. However, demographic changes indicating an aging and more ethnically diverse population, coupled with rapidly transforming workplaces and advances in medicine and technology which enable better management of chronic disability due to injury, will always present new challenges and opportunities. NZNO is firmly of the view that such challenges demand greater flexibility and innovation from ACC, *not* the reduced coverage and restrictive regulation articulated in this Bill .

10. In particular, we agree with the Minister of Health, the Hon. Tony Ryall, and indeed the National Party's health discussion paper *Better, Sooner, More Convenient* (2007), that in order to improve performance and quality "clinicians – doctors, nurses and other health professions – should be more involved in the planning and operation of our public health system". Blanket restrictions on assessment, treatment and rehabilitation options which prevent clinicians exercising the judgment they are (expensively) trained to give, imposes bureaucratic bottlenecks and thwarts safe, timely and cost effective injury treatment and rehabilitation.

11. NZNO is aware of, and is concerned by, the increasing reduction and delay in providing ACC-funded health services; the premature and poorly coordinated rollout of programmes and policies without a robust evidence-base; lack of clinical input into management decisions including contracting and case management; and reporting practices which compromise the integrity of the data upon which decisions are made. Nurses see and experience the frustrating waste of resources and lack of safety many recent cost cutting measures have incurred and are distressed by the consequent increase in avoidable human pain and suffering. The Health Practitioners Competence Assurance Act (2003) (HPCAA) provides the appropriate regulation for assuring clinicians' competence and fitness to practice; ACC should not be putting up barriers to but rather facilitating appropriately trained and qualified health practitioners to deliver timely, quality care.

12. This Bill must also be considered in the light of other political and environmental changes, such as ACC's moves to reduce access to hi-tech imaging services and travel, significant changes in the health workforce including an increasing reliance on overseas trained practitioners and unregulated caregivers; the economic downturn; and reorganisation of the health system following the Ministerial Review Group Report (*Meeting the Challenges*, 2009).

13. NZNO considers that the effect of this Bill will be to:

- increase costs;
- divert spending from frontline health services to administration, litigation and social welfare;
- place a growing burden of care on an already shrinking able workforce;
- reduce capacity and expertise in the New Zealand health workforce;
- increase disparities; and
- adversely affect the health, and therefore the productivity, of the nation.

14. NZNO **recommends** that cost containment measures for ACC are pursued through:

- stronger clinical governance;
- integrated health, social welfare and ACC systems and services;
- improved data collection and information systems; and
- investment in New Zealand based research.

15. NZNO thanks you for the opportunity to make an oral submission and advises that we will be represented by:

- Suzanne Rolls, professional Nursing Adviser
- Sheilagh Crutchley, Registered Nurse
- Margaret Barnett-Davidson, NZNO Legal Adviser

ABOUT NZNO

16. NZNO is the leading professional body of nurses and nursing union in Aotearoa New Zealand, representing over 43 000 nurses, midwives, students, kaimahi hauroa and health workers on a range of employment-related and

professional issues. Te Runanga o Aotearoa is the arm through which our Te Tiriti o Waitangi partnership is articulated.

17. The NZNO vision is “Freed to care, Proud to nurse”. Our members enhance the health and wellbeing of all people of Aotearoa New Zealand and are united in their professional and industrial aspirations to achieve a safe, sustainable and accessible system of public health care for all New Zealanders.

CONSULTATION

18. NZNO has consulted its staff and members in the preparation of this submission in particular our Advisory teams comprising Professional Nursing, Policy, Research and Industrial Advisors; Board and Regional Board Members, Te Runanga, specialist Colleges and Sections and individual members.

SUBMISSIONS ON THE BILL

Changes to Vocational Independence: Clauses 4 and 9, Clause 25 of Schedule; also Clause 10 regarding wilful self-inflicted injury.

19. There are substantial changes to the definition of vocational independence including reducing the hours from 35 to 30 hours per week and removing the obligation to have work and income assessments commensurate with pre-injury occupation and earnings. This poses a particular risk for nurses with the increasing use of unregulated health care assistants (HCAs) whom they may be called upon to replace, or who may be expected to do nursing work under the direction of an incapacitated nurse. Most HCAs are on the minimum wage and have little opportunity of being paid much more; it would be grossly unjust for a registered or enrolled nurse, or nurse practitioner to be forced to accept 30 hours work on HCA wages as compensation for a full-time regulated professional role and salary.

20. Back and shoulder injuries are the most common injuries affecting nurses, midwives and health care assistants, as transferring (in lay terms 'lifting'), rolling and repositioning patients is integral to a lot of nursing care. It is already common practice for nurses to return to work before full recovery on 'light duties', but this can and does lead to situations where there are several nurses on one shift, none of whom should be transferring patients. In practice of course, out of concern for patients and colleagues, they frequently feel pressured to do so and consequently exacerbate the original complaint, increasing the risk of permanent injury and therefore permanent dependency. This clause adds further and sustained loss of income and opportunity for rehabilitation, and thus breaches the social contract on which the ACC was constituted and risks further erosion of this much needed workforce.
21. The experience of RN Sheilagh Crutchley (Appendix 1) who had sustained ACC support and rehabilitation for a work-related injury over a period of two years enabling her to return to full time work as an experienced nurse illustrates the long term value of proper rehabilitation. "*I am now in a position where I am able to contribute to the organisation at a very high level, where I am appreciated by patients, staff and Directors. If I had been refused the extra physiotherapy and the MRI's which ACC have already wanted to limit to 9 and clearly want to limit further, then I would probably still be unable to work full time and would still be on earnings compensation*." Ms Crutchley has 15 years to go before retirement. With endemic nursing shortages, and no mandatory provisions for safe staffing or staffing ratios, nurses are already at greater risk of injury. Removing the protection of fair rehabilitation is a poor reward for the expensive education they have paid for and the service they have given and will do nothing at all to stem the outward migration of nurses.
22. These amendments are short-sighted and unjust. They will inevitably lead to the de-skilling of the workforce and an increase in dependency, human misery and stress. Incapacity due to a mental injury caused by physical injury, for example from pain, emotional distress and depression, such as would be likely in the event of having to accept an inappropriate job because of there

being no recognition of prior skills, could involve ACC in extra costs, though we also note, and **do not** support, ***Clause 10*** which disentitles claims for wilful self-inflicted injury and suicide and unduly restricts coverage to those suffering mental injury. The provision for disentitlement was sensibly abandoned in 2008 and it is a step backward to see its attempted reinstatement here.

Clause 6 Amendment to Section 26 the Definition of Personal Injury

23. The increased threshold for hearing loss takes no account of those who may have some loss, but who may now need hearing aids for the additional loss caused by injury, if it is less than 6 percent. E.g. a 5 percent work related loss on top of this threshold would take the loss up to 11 percent, and yet would not be covered or compensated for. NZNO also strongly questions the inference that a 6 percent hearing loss is insignificant. Primary health care nurses, and those who work in the aged care sector stress the adverse effects of hearing loss on people's ability to communicate, participate, and even cross a road safely; these factors are all evidentially linked to significant increased health risks which will incur further cost. It is not only unethical to condemn working people to live in a world of silence, frustration and ignorance for the sake of a hearing aid and a few batteries, it is unsafe and uneconomic. Workers who have had their hearing damaged and lost due to gradual process work-related noise exposure should not be burdened with the expense of either proving their case or paying for treatment.
24. This amendment also introduces an unhelpful precedent. The "egg shell skull" principle which has applied in Aotearoa until now does not reject cover for injury because of a pre-injury vulnerability i.e. if someone had a thin skull they would not be rejected for cover if a car accident caused a skull fracture. NZNO does not support this artificial and divisive threshold.

Clause 7 Cover for Work-Related Gradual Process, Disease or infection Injuries

25. The unacceptably high threshold for the third stage of the test relating to causation of a work-related gradual process disease or infection, that of the onus of proof falling on claimant, was dropped last year and it is disappointing to see its reinstatement here. Many claimants simply cannot mount the expensive independent medical reports based arguments required to prove causation. For nurses, and other health professionals, it is particularly iniquitous since this change includes infection and disease, which are undeniably work-related risks in the health sector.
26. Nurses undertaking haemodialysis, for instance, risk contracting hepatitis, HIV and other blood-borne illnesses; nurses dressing wounds or turning patients on ventilators, which can become disconnected, risk infection from mucous and pus and, as was the case earlier this year, a paediatric nurse died from contracting infectious H1N1influenza.
27. However, increased risk does not constitute proof of causation and there are often plausible non-work alternatives as sources of injury. This amendment would put the onus, and expense, on nurses to "prove" cause of injury, which is clearly impossible. There may be marginal cost containment for ACC, but the price, especially in a pandemic, could be high: it is unreasonable to expect nurses and other health professionals to risk their lives tending the sick if they may also be financially penalised for doing so.

Clause 8 Abolition of the Ministerial Advisory Panel

28. NZNO is at a loss to understand why this most useful independent panel which provides comprehensive specialist and multidisciplinary knowledge and insight into occupational disease, including research, statistical information and advice should be disestablished. It is commonly accepted that the majority of occupations in the future do not currently exist and it is essential that developments in the workforce are carefully monitored in order to mitigate any foreseen health risks. The prevention of work-related injury is a prime focus of the panel and it is doubtful whether any other system would be as open, transparent and robust.

29. Hand Arm Vibration Syndrome (HAVS) is a *preventable* condition caused by vibration being transmitted into a person's hands and arms, affecting the nerves, blood vessels, muscles and joints of the hand, wrist and arm. If ignored, it can become severely disabling. This is an excellent example of where the Panel has been able to signal an impending issue, provide a platform of information from which government, employers, workers and ACC can develop appropriate safety regulations consistent with legislation in other countries and suggest useful strategies for preventing permanent injury. (See Appendix 2).
30. NZNO strongly supports the Panel and opposes this clause.

Clause 11 Disentitlement for Imprisoned Offenders

31. NZNO opposes the disentitlement of claimants, without right of appeal, or the involvement of the District Court, who have suffered an injury during the commission of an offence punishable by two years imprisonment and who are sentenced to imprisonment. We are also strongly opposed to the Minister alone having the power of exemption, without constraints to ensure fairness and accountability and because it imposes an unfair burden of responsibility on one individual.

32. NZNO is proud to note that this year marks **fifty years of prison nursing in New Zealand**. We are proud because our prison nurses understand very well what statistics show: that untreated health issues are endemic in prison populations and are factors associated with offending.

33. We have expanded on this at length in recent submissions on, for example the Children, Young Persons and their Families, Youth Courts and Jurisdiction Amendment Bill, Domestic Violence – Enhancing Safety Amendment Bill, Corrections (Prison Management) Amendment bill and Sale of Liquor and Liquor Supply Amendment Bill (all available on our website http://www.nzno.org.nz/activities/submissions). But, perhaps the following statistic from the government report on the *Health Status of Māori Male Prisoners* (Ministry of Health, 2008), most vividly illustrates the fundamental

iniquity and false economy of this clause: "Approximately three-quarters of Māori male prisoners have a history of a head injury" (Ministry of Health, 2008).

34. That that is a significantly higher rate than non Māori male prisoners suggests that Māori males are less likely to have received treatment for head injury, which is almost certainly a factor in higher rates of offending by Māori. More importantly it underlines exactly why injury prevention, treatment and rehabilitation are necessary: it is not only the individual who suffers the consequences of injury-related disease but the whole community, which also bears the cost. The choice is simple and stark: treating prisoners any differently from other New Zealanders will lead to an increase in crime where mental injury is a factor (which includes violent crime).

35. In this context we note Aotearoa's abysmally high rate of incarceration, particularly of juveniles, compared with other OECD countries, evidence that we have not fulfilled our collective responsibility to care even for our most vulnerable citizens, children. Children who are removed from dysfunctional and/or abusive homes are often simultaneously removed from the public health system and have never received the healthcare that all children are entitled to, let alone the extra care that one would assume was warranted in such circumstances. It is hardly surprising that these children, who have experienced the double failure of family and society to nurture and protect them, have developed severely antisocial and criminal behaviours. This clause which would further entrench such disparities is morally repugnant.

Clause 14 Experience Rating and Risk Sharing

36. Nursing can entail a high risk of injury, disease and infection. Employers, the largest of whom are the District Health Boards, which are government funded, shoulder that financial burden. This clause which provides employers with an incentive to keep claim numbers down is problematic not in its intent, which is laudable – good employers *should* be rewarded for their efforts to keep workers safe - but in how it will work in practice.

37. Experience rating has not been found to be particularly effective in delivering better or cheaper outcomes. We note, for instance, the recent investigation by South Australian Government's statutory authority for employer funded rehabilitation and compensation for work related injuries of their Bonus/Penalty Scheme which concluded that: *Only very weak links were found between the Bonus/Penalty rate and claim outcomes. No evidence was found to suggest that the Bonus/Penalty Scheme has delivered better health and safety outcomes for workers in South Australia*." (WorkCoverSA, 2009).

38. NZNO is aware that current ACC systems do not support optimal cost-effective management and treatment of injuries. The escalation in restrictions/controls on injury management and treatment in order to save costs, particularly where they entail delays in referrals to specialists which interrupt treatment, are already having a negative impact on health outcomes and *increasing* costs in ways that are not easy to detect statistically. We know for instance that some people who have sustained strain injuries which have not been 'cured' in the allotted nine physiotherapy sessions have to wait for months for reassessment and referral, without treatment. We understand that some health professionals, who are well aware of the long-term implications of having no treatment, report further injuries to ensure ongoing treatment. This not only gives an inaccurate individual health record, it distorts injury data implying several injuries where there has been only one, and pointlessly duplicates administration costs and delays rehabilitation.

39. For untrained health care assistants and home-based caregivers, who overwhelmingly staff aged care residential homes and are perhaps unaware of the need for ongoing treatment (and cannot afford private care), the situation is worse. They simply do not get treatment: their injury and pain persists and may be even become permanent. The ACC must be aware of the situation for it has put Residential Aged Care in the highest category of high risk injuries. Who will care for the carers if this already impoverished group of workers is not cared for? We note too that these workers who are

often in part time and casual employment would be further penalized by the clauses in this Bill pertaining to income assessment.

40. Similarly NZNO members have noted delays and restrictions in the provision of hi-tech imaging – Medical Resonance Imaging (MRI) scans for instance, and in rehabilitation. In fact the most common comment from nurses involved in this area is that rehabilitation is being downgraded to provision of support only, with strong pressure to utilise "natural supports" of families and friends and little meaningful supervision or monitoring in spite of a plethora of case managers and complicated reporting structures.

41. Changes such as the "limited vendor" model adopted in 2009 seem to have shifted the emphasis from monitoring health outcomes to monitoring contractual obligations, with serious consequences for health providers, patients and the sustainability of New Zealand's health workforce.

42. In the specialist area of brain injury for instance, the number of providers went from 19 to seven (originally with none in the South Island!) which will have ongoing effects with the loss of professional expertise and experience. There are no generic treatments in such specialist areas; unlike broken arms, brain injury (and back injuries) must be treated on an individual basis by expert practitioners, yet the basis for ACC management is to have rigid parameters and a structure requiring Case Managers to constantly review, refer and question expert clinical judgment. This is where ACC should be looking to contain costs and improve outcomes: allowing/trusting clinicians to do the job they have been trained for and providing the integrated non-clinical support needed.

43. It is unacceptable, and dangerous, to continue what is now a common practice of Case Managers *instructing* trained expert health practitioners to reduce the services recommended for injured workers. For private providers who have invested considerably in equipment, training and personnel this is seriously problematic, since it compromises their professional codes of

conduct and ethics, their professional judgment and their livelihood - ACC referrals are not given to those who "do not comply".

CONCLUSION

44. In conclusion, although NZNO **does not** support the Bill, we **do** support increasing the flexibility ACC to deliver quality, cost-effective injury prevention, treatment and rehabilitation programmes. We strongly believe that the key to delivery is enhancing and supporting clinical leadership. Innovative, consistent, timely and excellent care by appropriate trained and regulated health professionals will contain costs far more effectively than burgeoning bureaucracies overseeing restrictive rules and regulations pertaining to limited and inequitable coverage and compensation. Similarly ensuring the collection and publication of robust and accurate clinical New Zealand data to draw on, rather than relying on the ad hoc adaption of overseas programmes or administrative goals, is essential.

45. NZNO would like to continue and further its work with the ACC and associated agencies to progress the issues that this Bill has raised.

46. We recommend that you:

- **Note** our support for the CTU and ACC Coalition submissions;
- **Delete** clause 6 – threshold of cover for hearing loss;
- **Agree** that the Ministerial Advisory Panel serves a useful purpose;
- **Delete** Clause 8 and 12;
- **Delete** Clauses 4 & 9, and clause 25 of Schedule 1 regarding changes to vocational independence;
- **Delete** Clause 7 regarding cover for work related gradual process injuries;
- **Delete** Clause 10 regarding willful self-inflicted injury and suicide;

- **Delete** Clause 11 regarding disentitlement for imprisoned offenders; and
- **Delete** Clause 14 regarding experience rating and risk sharing.

Marilyn Head
Policy Analyst

REFERENCES

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Ministerial Review Group Report. 2009. *Meeting the Challenge: Enhancing Sustainability and the Patient and Consumer Experience within the Current Legislative Framework for Health and Disability Services in New Zealand.* Wellington: Parliament.

Ministry of Health. 2008. *The Health Status of Māori Male Prisoners: Key results from the Prisoner Health Survey 2005. Wellington: Ministry of Health*

WorkcoverSA. 2009 C*onsultation on a new framework for employer incentives*. Adelaide: WorkCoverSA.

APPENDIX 1

RN Sheilagh Crutchley .

Qualifications

1978 RN.

1980 Orthopaedic Nurse with honors

1986 Diploma in Nursing Education, with honors in Human Anatomy

Work History

1982 Occupational Nurse in a Green Sand Foundry

1983 Teaching Sister

1986 Junior Lecturer at the B.G. Alexander Nursing College

1988 Senior Lecturer in Nursing Science at the College with responsibility for setting and marking examinations in conjunction with the University of the Witwatersrand

1989 External Orthopaedic examiner for the South African Nursing Council

1992 External Moderator for the Diploma in Orthopaedic Nursing by the South African Nursing Council

1997 Head of Department, Clinical Nursing, Tambo-Memorial Hospital

1999 Head of Department, Clinical Nursing, B.G. Alexander Nursing College responsible for all clinical competencies and examinations of the 4 year Diploma Nursing students, member of College Senate and Tutor's forum and Chief Invigilator for 3 years.

2001 Returned to RN Orthopaedics and have continued to work in this speciality ever since.

On Friday 2nd of April 2007 I assisted my colleague who was an agency nurse in lifting a post operative knee replacement, a heavy patient who had had both hips replaced as well. All care was taken but still I felt within my shoulder a twinge which gradually worsened. On that same shift an emergency bell rang and I went to Intensive Care Unit to help out with a cardiac arrest. I did chest compressions

until the surgeon and anaesthetist arrived. About four days later the pain had not improved and I was experiencing difficulty with movements and went to my doctor [GP]. This was diagnosed as impingement syndrome and treated with local injections and pain killers and 6 weeks of physiotherapy. At this stage I was still working full time and carrying a full workload.

By the time my review came around in 6 weeks time my shoulder had worsened. My movement and rotation were much reduced and extremely painful whether I was doing anything or not. I was seen by Orthopaedic Surgeon, Mark S Wright, who arranged an MR scan. The diagnosis was of Adhesive Capulitis/frozen shoulder overlying the impingement syndrome. Part of the investigation of my injury was the MRI scan which showed that manipulation under anaesthetic could help. While waiting for this I was treated with more physiotherapy and acupuncture. Once I had had the manipulation, I was off for four months for recovery. During this time I had another 4 or 5 series of physiotherapy sessions and was in constant contact with my ACC case managers.

This was followed by a combination of time off work for recovery and a return to work process with gradually increasing hours on light duties. During this time there was good support from ACC which was topping up my salary, paying for medications and physiotherapy and, for a limited time, some hours of housework.

Given the nature of this injury full healing is a long slow process. At six months I had improved movement but pain levels increased markedly when I attempted a full day's work. More physiotherapy was made available from ACC who continued to pay as well for the expensive pain relief required.

This situation was again confirmed at my twelve month review with the pain still worsening during the day. Although in theory I was on light duties, these are almost impossible to find in any health environment and despite having a Health Care Assistant helping out [a much appreciated initiative from my employer],

there were always occasions when I was in a position of pushing my shoulder movement to the limit because of patient cares. There was also the difficulty experienced by any nurse in my situation of being at work and part of a team yet not able to fully share the shifts and the patient load as you know your colleagues are carrying more work and therefore increasing their own risk of injury.

Eventually I was undertaking full nursing duties as part of the team. However, it had become apparent to me that I could not continue to work in the orthopaedic ward. In February 2009 ACC referred me to an occupational assessor. This assessment confirmed the difficulty for me in actually completing the normal nursing tasks inherent in a busy orthopaedic ward with immediately post surgery patients.

Given my previous experience it did not take me long to find work elsewhere as a highly valued Nurse Manager in an aged care hospital.

Over this whole period of time I had excellent support from ACC which greatly contributed to my healing. I had 52 sessions with the physiotherapist. I had two MRI's which confirmed clearly to my specialist exactly the right required treatment. After two years of pain, limited movement, embarrassment and the emotional pain in the fear of never being able to get fully back to my loved work as a nurse. I am now in a position where I am able to contribute to the organisation at a very high level, where I am appreciated by patients, staff and Directors. If I had been refused the extra physiotherapy and the MRI's which ACC have already wanted to limit to 9 and clearly want to limit further, then I would probably still be unable to work full time and would still be on earnings compensation.

Already in the country we do not have enough front line staff and the idea of cutting back on essential treatments and investigations is abhorrent both from our society's moral point of view and from the individuals. The pain and agony

that I suffered resulted as a consequence of my own high level of patient cares, not out of an error. Nurses, given the nature of their work, are singularly at risk for back, shoulder, wrist and arm injuries and at high risk of catching infectious diseases. Nurses provide a protective barrier for the community and are often, as with the recent pandemic, in the frontline. ACC must provide full cover for the risks they take.

APPENDIX 2

Hand Arm Vibration Syndrome.

Hazel Armstrong, Ministerial Advisory Panel Member.

What is HAVS?

HAVS – which is also sometimes referred to as 'vibration white finger' – is a condition which is caused by vibration being transmitted into a person's hands and arms. It affects the nerves, blood vessels, muscles and joints of the hand, wrist and arm. If ignored, it can become severely disabling.

The symptoms of HAVS include:

- painful blanching (or whitening) of the fingers, particularly in cold and/or wet conditions
- loss of sense of touch/temperature, grip strength, and manual dexterity in the fingers
- numbness and tingling
- pain in the hands, arms and shoulders.

HAVS is preventable – however, once the damage is done, it is permanent.

What levels of exposure to vibration are dangerous?

Vibration is defined by its magnitude, which is measured in metres per second squared (m/s^2). When measuring a worker's exposure to vibration, this is dealt with on the basis of an 8 hour working day – which is written as A(8). Therefore, a worker's daily exposure to vibration is expressed in m/s^2 A(8).

In New Zealand, there is no official indication as to what levels of exposure to vibration are to be considered dangerous. However, we are able to look to the UK personal injury system for guidance.

In 2005, the UK parliament enacted The Control of Vibration at Work Regulations 2005 ('the Regulations'). In relation to hand-arm vibration, the Regulations set out:

1. A 'daily exposure limit value' of 5 m/s^2 A(8); and
2. A 'daily exposure action value' of 2.5 m/s^2 A(8).

The Regulations provide that all employers must ensure that none of their workers are exposed to daily vibration levels which are higher than the 'daily exposure limit value' of 5 m/s^2 A(8) – i.e. that is the maximum allowable level of daily exposure.

If the daily exposure action value of 2.5 m/s^2 A(8) is likely to be reached, and it is not practicable for the employer to eliminate the exposure, the Regulations require that employer to take steps to reduce its employees' exposure to vibration. Under the Regulations, employers in this situation must consider such things as:

- alternative working methods entailing less vibration exposure;
- different work equipment;
- improved maintenance of work equipment;
- design/layout of work stations and rest facilities;
- information and training for employees;
- limiting the duration of employees' exposure to vibration;
- appropriate rostering; and
- the provision of clothing to protect employees from damp and cold.

The Regulations provide that (in most circumstances) it is actually unlawful for an employer to expose its workers to daily vibration levels in excess of 5 m/s^2 A(8). This shows that, in the UK, it is accepted that this level of daily exposure entails a particularly high risk of harm.

The Regulations show that, in the UK, the legislature has recognised that where a worker's daily exposure to vibration reaches or exceeds 2.5 m/s^2 A(8), that worker is placed at risk – and accordingly his or her employer must take steps to reduce the vibration exposure.

However, this does not mean that any level of exposure below 2.5 m/s^2 A (8) is necessarily safe. In the UK, workers who are injured at work are still able to sue their employers for negligence. If a UK worker who suffers HAVS sues his or her employer, the worker must show that their exposure to vibration was sufficient to cause their HAVS. The decisions from the UK Courts show that, generally

speaking, a daily exposure level at or above 1 m/s^2 A(8) may be sufficient to cause HAVS (especially if the worker has been exposed to that level of vibration for several years). Cases brought by workers with a daily exposure level of less than 1 m/s^2 A (8) were generally unsuccessful.

Therefore, from the UK system we are able to conclude that:

- Daily exposure levels of 1 m/s^2 A (8) or more may well be sufficient to cause HAVS, over time.
- A daily exposure level of 2.5 m/s^2 A(8) entails a significant or recognised risk of harm to workers; and
- A daily exposure level in excess of 5 m/s^2 A (8) places workers at an unacceptable level of harm.

In 2008 the European Agency for Safety and Health at Work carried out a comprehensive review of workplace exposure to vibration in Belgium, Germany, Spain, Finland, France and Poland. The authors of the review noted that, in July 2005, the European Parliament enacted a directive which set out daily exposure 'action' and 'limit' values identical to those contained in the UK Regulations. This shows that the level of risk to workers who are exposed to those levels of vibration is accepted across Europe, as well as in the UK.

One of the conclusions made by the authors of the review is particularly relevant to workers in the rail industry:

As regards hand-arm vibration (HAV), the action level [2.5 m/s^2 A(8)] is likely to be exceeded by operators of most main percussive and roto-percussive tools (such as chipping hammer, demolition hammer, rock drill, breaker, impact drill, scabbler, rammer, vibratory hammer), or main rotative tools (e.g. grinder, impact wrench, sander) and main alternative tools (e.g. jig-saw, file). The limit value for exposure to vibration [5 m/s^2 A(8)] may be exceeded if percussive and roto-percussive tools are used for more than one to two hours a day, or in the case of some rotative tools if used for more than four hours.

Vibration levels at ONTRACK

On 13 August 2009, I visited the ONTRACK depot (?) with RMTU organiser Todd Valster. There, I saw the type of vibrating tools that are used by track workers, including:

- Vessel GT-3500GE Impact Wrench;
- Airtec Master 35 Impact Wrench;
- Husqvarna K1250 Rail Cutter;
- Cobra TT; and
- Pionjar.

The manufacturers of these tools advise that they give off the following levels of vibration:

- Vessel Impact Wrench – 5.32 m/s^2 with a Damper Unit attached, or 19.25 m/s^2 without the Damper Unit.
- Airtec Impact Wrench – between 7 and 11.6 m/s^2, "depending on operator technique and condition of Wrench, fastener and track".
- Husqvarna Cutter – 5.3 m/s^2 at the front handle, 10.4 m/s^2 at the rear handle (where the trigger is situated).
- Cobra TT – 2.3 m/s^2.

Unfortunately, the manufacturer of the Pionjar (Atlas Copco, the same company which manufactures the Cobra TT) does not publish the Pionjar's vibration magnitude on its website. However, from speaking with staff at the ONTRACK depot, we understand that the Pionjar gives off a substantially higher level of vibration than the Cobra.

It must be kept in mind that these vibration figures, as they come from the manufacturer, will be fairly conservative – particularly because the vibration levels would have been measured when the tool was brand new, and in perfect condition. As the condition of a tool deteriorates, the levels of vibration it gives off increase.

How long before workers are at risk?

The UK Health and Safety Executive has published an online vibration exposure calculator. This allows workers to calculate the daily vibration exposure, and to estimate how long a particular tool can be used before it places the worker at risk. The vibration calculator can be found at www.hse.gov.uk/vibration/hav/vibrationcalc.htm.

Using the vibration calculator, we have prepared the following table which shows approximately how long a particular tool can be used in any 8 hour period, before the daily exposures of 1, 2.5 and 5 m/s^2 A(8) are reached.

	time to reach 1 m/s^2 A(8) (possible risk)	time to reach 2.5 m/s^2 A(8) (significant risk)	time to reach 5 m/s^2 A(8) (unacceptable risk)
Vessel Impact Wrench, with Damper Unit (5.32 m/s^2)	20 minutes	1 hour 45 minutes	7 hours
Vessel Impact Wrench, without Damper Unit (19.25 m/s^2)	1 – 2 minutes	8 minutes	32 minutes
Airtec Impact Wrench (7 m/s^2, i.e. the lower end of the given range)	10 minutes	1 hour	4 hours
Husqvarna Cutter, at the front handle (5.3 m/s^2)	18 minutes	1 hour 45 minutes	7 hours
Husqvarna Cutter, at the rear handle (10.4 m/s^2)	5 minutes	27 minutes	1 hour 50 minutes
Cobra TT	1 hour 25	9 hours 10	> 24 hours

(2.3 m/s^2)	minutes	minutes	

These figures show that, given the types of tools used in track work, it does not take long at all before workers are placed at risk of contracting HAVS. The figures confirm that use of the tools for a matter of minutes per day may, over time, cause permanent damage. It is particularly concerning to see that with some tools – such as the Husqvarna Cutter – a daily exposure level of 2.5 m/s^2 A(8) can be reached with less than 30 minutes use in any 8 hour period. However, what this table does not show is the cumulative effect of using several different vibrating tools in one 8 hour period. This is, of course, the reality of the workplace.

The online vibration calculator can also be used to calculate the daily exposure rate when a worker uses several tools during the day.

As an example, the following usage would result in a daily exposure value of 2.5 m/s^2 A(8):

- Cobra TT for 30 minutes;
- Husqvarna Cutter (rear handle) for 12 minutes; and
- Airtec Impact Wrench for 30 minutes.

As a further example, the following usage would result in a daily exposure of 5 m/s^2 A(8) (the lawful maximum in the UK):

- Vessel Impact Wrench, with a Damper Unit, for 1 hour 45 minutes; and
- Husqvarna Cutter for 1 hour 25 minutes.

Again, it must be emphasised that these calculations are based on the vibration magnitude of each tool as published by the manufacturer, which were measured when the tool was brand new. As the condition of a tool deteriorates, and the vibration increases, these time limits will decrease.

How can workers protect themselves?

The best way for workers to protect themselves against HAVS is to minimise the amount of time they spend handling vibrating tools. The UK Health and Safety Executive has published a pamphlet entitled ‘Hand-arm vibration: advice for

employees'. This pamphlet sets out that workers can reduce the risks by taking the following steps:

- Ask to use suitable low-vibration tools.
- Always use the right tool for each job (to do the job more quickly and expose you to less hand-arm vibration).
- Check tools before using them to make sure they have been properly maintained and repaired to avoid increased vibration caused by faults or general wear.
- Make sure cutting tools are kept sharp so that they remain efficient.
- Reduce the amount of time you use a tool in one go, by doing other jobs in between.
- Avoid gripping or forcing a tool or workpiece more than you have to.
- Store tools so that they do not have very cold handles when next used.
- Encourage good blood circulation by:
    - keeping warm and dry (when necessary, wear gloves, a hat, waterproofs and use heating pads if available);
    - giving up or cutting down on smoking because smoking reduces blood flow; and
    - massaging and exercising your fingers during work breaks.

Remember, although the employer has the primary duty to ensure the health and safety of its workers, each worker also has a legal duty to take all practicable steps to ensure his or her safety while at work.

What should you do, if you are concerned about symptoms?

If you believe you may be suffering the symptoms of HAVS, it is important to take steps to remedy the problem – the longer the symptoms are ignored, the more incapacitating they are likely to become.

The first step is to see your GP, to explain your symptoms, and the type of work that you do. In addition to recommending treatment options, your GP will be able to lodge a claim with ACC. HAVS is listed in the ACC legislation as a condition which is known to be caused by workplace exposure to vibration. Because of

this, the process of obtaining ACC cover for HAVS is made much easier, and faster.

This is important; in addition to compensation for lost earnings, ACC cover also results in fast and effective treatment.