



ARCHIVED - Archiving Content

Archived Content

Information identified as archived is provided for reference, research or recordkeeping purposes. It is not subject to the Government of Canada Web Standards and has not been altered or updated since it was archived. Please contact us to request a format other than those available.

ARCHIVÉE - Contenu archivé

Contenu archivé

L'information dont il est indiqué qu'elle est archivée est fournie à des fins de référence, de recherche ou de tenue de documents. Elle n'est pas assujettie aux normes Web du gouvernement du Canada et elle n'a pas été modifiée ou mise à jour depuis son archivage. Pour obtenir cette information dans un autre format, veuillez communiquer avec nous.

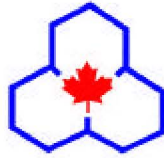
This document is archival in nature and is intended for those who wish to consult archival documents made available from the collection of Public Safety Canada.

Some of these documents are available in only one official language. Translation, to be provided by Public Safety Canada, is available upon request.

Le présent document a une valeur archivistique et fait partie des documents d'archives rendus disponibles par Sécurité publique Canada à ceux qui souhaitent consulter ces documents issus de sa collection.

Certains de ces documents ne sont disponibles que dans une langue officielle. Sécurité publique Canada fournira une traduction sur demande.

CPRC



CCRP

CANADIAN POLICE RESEARCH CENTRE

CENTRE CANADIEN DE RECHERCHES POLICIÈRES

TR-06-97
Occupational Health in Police Work:
A Canadian Perspective

A. Trottier
J. Brown

TECHNICAL REPORT
1994

Submitted by:
J. Brown
Royal Canadian Mounted Police

NOTE: Further information
about this report can be
obtained by calling the
CPRC information number
(613) 998-6343

NOTA: Pour de plus ample
renseignements veuillez
communiquer avec le CCRP
au (613) 998-6343



CLINICAL PRACTICE

Occupational health in police work: a Canadian perspective

A. Trottier*, J. Brown†

*Health Services and †Royal Canadian Mounted Police, Ottawa, Ontario, Canada

The Royal Canadian Mounted Police (RCMP) is the federal police force in Canada and is engaged in police work throughout the length and breadth of the country. The occupational health of the members of the Force is managed regionally by health professionals in each division from the Atlantic coast to the Pacific. Each division has a regional health services officer who is a physician, a regional psychologist and a variable number of occupational health nurses.

In Ottawa, Canada's capital city, the RCMP Health Services Directorate is the team of individuals who are responsible for policies which impact upon police officer health. The team includes the director of health services who is a physician, the occupational health physician, a clinical psychology section, a fitness and lifestyle section and a health and safety section which deals with accident prevention and safety equipment. It is here that decisions are made about the interactions of health, fitness and disease with police work.

This interaction can be divided into two basic components: the impact of the police officer health on the work, and the impact of the work on the police officer health.

POLICE WORK

In order to make logical decisions about the interaction between health and police work it is necessary to know exactly what is meant by the term 'police work'. Certainly, if one is to defend such decisions in the context of legislated protection of individual human rights and to guard against discrimination on the grounds of disability, it is necessary to have a detailed description of what police work entails. The description

must include physical tasks that require physical abilities such as vision and hearing, as well as abilities such as running, grappling, tackling, handcuffing, discharging a firearm, pursuit driving and many more. This means that police work must be analysed into its component tasks. The technique for performing task analysis has been published elsewhere² and a detailed task analysis for general duty constable was created, with the assistance of serving police officers, for this Force.

THE IMPACT OF POLICE OFFICER HEALTH AND OCCUPATIONAL FITNESS ON POLICE WORK

Once the task analysis is complete it becomes possible to dissect out the physical and mental tasks required to do the work and to describe the physical and mental abilities required of the individual hired to do the tasks. This allows a recruit standard to be developed on the basis of a specific task analysis so that the attributes required of constables can be easily and directly shown to be bona fide occupational requirements. It also allows the assessment of individual police officers who are suffering from a disease or disability in the context of the task analysis, so that specific limitations and duty restrictions can be communicated to individuals charged with personnel management. This is done in a manner that respects medical confidentiality and ensures that the police officer is not assigned to a position where required to perform tasks which cannot be performed safely.

When assessing the individual police officer, the concept of safety is an important one. Where an intercurrent disease or disability prevents the individual from performing the tasks of employment it is relatively easy to assign limitations and restrictions. When an individual can perform the tasks, but it is unclear how safely he can do so, then the situation must be examined more

A. Trottier MD, Director, Health Services, J. Brown MD, Chief Occupational Health Physician, Royal Canadian Mounted Police, 1200 Vanier Parkway, Ottawa, Ontario K1A 0R2, Canada.
Correspondence to: Dr J. Brown.

closely. For example, a police officer with uncontrolled epilepsy could certainly drive a car in a high speed chase but if a seizure is suffered while driving then that individual might be killed or seriously-injured. If there were another police officer in the car then this person would suffer the same fate. If the individual happened to have the seizure while speeding past a playground there would be a threat to the safety of the children on the playground.

The impact of the health condition, then, is assessed in terms of four criteria (Table). Firstly, the individual's ability to do the job, secondly, any threat to the safety of the public brought about by the interaction of the tasks of employment with the disease or disability. The third criterion is any threat to the safety of a co-worker and the fourth is any threat to the safety of the individual police officer.

In a police force that covers so many thousands of miles it is necessary to ensure that a member of the Force on the Atlantic coast who has a specific condition will be treated the same way as a member on the Pacific coast. In order to ensure consistent treatment the RCMP Health Services Directorate has analysed medical diseases and disorders of all organ systems in the light of task analysis, and provided the regional health services officers with a detailed guide for recommended limitations and restrictions determined by the condition and its severity.

We have dealt with the issues of recruit standards and the effects of intercurrent disease or disability on ability to do police work. What about the individual who has no demonstrable medical condition but who lacks the occupational fitness required to perform the tasks of police work?

In order to address the issue of fitness, the Fitness and Lifestyle section has developed a test of occupational fitness known as the Physical Abilities Requirement Evaluation or PARE. This test is adapted from the earlier Police Officers Physical Abilities Test (POPAT)² and is a test of physical ability that is more than a simple fitness test. In the past police officers have been required to maintain a certain height-to-weight ratio or perform a certain number of push-ups, or run a certain distance in a given time. There is no evidence, however, of a relationship between an individual's ability to do push-ups and his/her ability to do police work.

Table. Considerations for officers with intercurrent disease or disability

- | |
|--|
| 1. Ability to do the job |
| 2. Safety of the public |
| 3. Safety of co-worker |
| 4. Safety of individual police officer |

The PARE is based on the task analysis of police work and isolates specific physical tasks that serving police officers tell us are integral to police work. The test requires the sequential performance of these tasks in a controlled environment within a limited time.

While there is no doubt that the physically fit police officer is more likely to do well on the PARE, it is important to note that the test does not measure general physical fitness but, rather, specific, job related, occupational fitness.

It is considered more likely that members of the force will maintain the desired level of occupational fitness if they are provided with encouragement other than the requirement for periodic testing. To this end the Fitness and Lifestyle section has developed a training and remedial process to go into effect simultaneously with periodic testing, as well as the PARE circuit training manual to assist members in either preparatory or remedial conditioning.

THE IMPACT OF POLICE WORK ON HEALTH

The effects of police work on health have been considered elsewhere⁷ and the existence of occupational medical conditions other than injury from violence is controversial.⁴ Nevertheless this topic has not been well studied. We suspect that if there is an increased incidence of physical or mental disorders among police officers, it may be more closely related to the lifestyle that seems to go with police work. The stresses of police work are many and are probably magnified by the need to work long hours and different work shifts. There can be little doubt that police work, by its very nature, carries certain occupational stresses. The psychologist in charge of the Emotional Health section of our Health Services Directorate has surveyed this Force to determine the stressors inherent in police work. After the stressors were identified it became possible to educate the members and to sensitise the regional psychologists and the regional Health Services Officers to the most common stressors.

A review of pensioned members suggested a possible increase in hearing deficits among retired members and a review of published literature³ suggests a variety of other possible associations.

Less tenuous is the impact of definite occupational exposures of specialists within the police force. Armourers for example, as well as instructors on a firing range, are exposed to lead and must be monitored. SCUBA divers engaged in rescue work, or the recovery of the bodies of drowning victims, incur much the same health risks as commercial divers. Forensic identification

technicians work with a variety of chemicals from fingerprint powder to cyanoacrylate while forensic laboratory personnel routinely work with a wide variety of chemicals and solvents. Forensic laboratory personnel involved in DNA typing also work with isotopes, usually P32.

The Health Services Directorate of the RCMP has developed a periodic occupational health assessment which is specifically designed for police work and which enquires about known stressors and risks associated with this occupation. The assessment is different from a periodic medical in that it was designed to reflect the interests of all four sections of the health services directorate. There are specific enquiries designed to assess accident risks and safety issues while other sections deal with lifestyle choices such as diet, exercise, alcohol and cigarette use. The periodic health assessment is administered by the divisional Health Services Officer or by a Force designated physician who has been sensitised to the issues specific to police work. There is an accompanying guide for designated physicians to assist in the uniform administration of the Periodic Health Assessment. There is evidence that work site screening can improve certain parameters of health in policing.⁶ All police officers undergo this assessment at two yearly intervals.

Embedded in the Periodic Health Assessment is an assessment of occupational exposures, occupational stressors, and a psychological screen for emotional disturbances in order that the member may be referred to a Force psychologist if required. The lifestyle enquiry will determine whether the member has developed maladaptive coping mechanisms. The RCMP is committed to the philosophy that its members are its greatest asset and to the corollary that the care of its members is the care of the Force. A variety of health promotion programs have been initiated, since it is known that work site screening and education can improve employee health,- and that regular aerobic exercise can improve the physical and mental⁹⁻¹² health of individuals.

In keeping with this philosophy, the occupational exposures of the specialist members have been examined and periodic health assessments tailored to specific occupational exposures. These assessments may include specific blood tests, X-rays or spirometry depending on the specific exposures of the member. In addition to this periodic health assessment the health and safety section monitors the use of safety techniques and equipment throughout the Force. This section also evaluates new equipment from the health and safety viewpoint and monitors work related accidents. Accidents are investigated to determine future prevention.

While many occupational exposures are well-known

others are incompletely studied. Measures such as periodic blood lead levels in armourers, or periodic long bone X-rays in divers are well understood. Liver and renal function testing among laboratory personnel working with aromatic hydrocarbons and various solvents are easily justified.

There is, however, a variety of exposures about which little is known. Cyanoacrylate, for example, is used in uncovering latent fingerprints. The possibility of respiratory sensitization with this compound has been raised.¹³⁻¹⁵ The Occupational Health Section of the Health Services Directorate is currently performing an epidemiologic study to determine whether asthma is more prevalent among individuals who routinely fume this compound to uncover latent prints. Similarly, this section has been involved in the planning of a study to determine cancer prevalence in police officers using hand-held 'radar guns'. This type of research is required to ensure monitoring of occupational hazards as police work evolves and new techniques become commoner.

All of this activity, directed towards the occupational health of police officers, must be assessed to see if it is effective. To that end the Health Services Directorate has developed the Health Services Information System. This is a computerized central data bank which provides an ongoing assessment of accident and sick leave and includes a diagnostic code that gives the reason for sick leave. This system will be expanded to include data gathered from the periodic health assessment and will allow the directorate to monitor trends in the health of members. In this way health maintenance and health enhancement programs can be assessed for efficacy and adverse trends in member health can be identified so that efforts can be made to determine the cause of such trends and deal with it in a constructive manner.

In summary, police medicine covers more than clinical forensic medicine and includes occupational health for the occupation of policing. This occupation is unique and requires the continued development of a particular medical expertise applicable to this profession. 'Police Occupational Health Physician' can be added to the list of possible titles for those doctors whose work interfaces between medicine and police

References

1. Fine S A. Functional Job Analysis. In: Gael S (Ed) *The Job Analysis Handbook for Business Industry and Government Vol II* (A practical guide of how to perform functional job analysis) New York: John Wiley and Sons, 1988
2. Rhodes E C, Farenholtz D W. Police officer's physical abilities test compared to measures of physical fitness. *Can J Sport Sci* 1992; 17(3): 228-233
3. Violanti J M, Vena J E, Marshall J R. Disease risk and mortality

- among police officers: New evidence and contributing factors. *J Police Sci Admin* 1986; 14(1): 17-23
4. Souter F C G, van Netten C, Brands R. Morbidity in policemen occupationally exposed to fingerprint powders. *Int J Environ Health Res* 1992; 2: 114-119
 5. Bandaranayake D R, Sahnond C E, Tobias M I. Occupational risk of hepatitis-B for police and customs personnel. *Am J Epidemiol* 1991; 134(12): 1447-1453
 6. Briley M E, Montgomery D H, Blewett J. Worksite nutrition education can lower cholesterol levels and promote weight loss among police department employees. *J Am Diet Assoc* 1992; 92(11): 1382-1384
 7. Ralph P M. Operation 'Physicop' Victoria police health and fitness initiative. *Aust Police J* 1992; 46(3): 103-106
 8. Stonecipher L J, Hyner G C. Health practice before and after a work-site health screening. *J Occup Med* March 1993; 35(3): 297-306
 9. Sandvik L, Erikssen J, Thaulow, E, Erikssen G, Mundal R. Physical fitness as a predictor of mortality among healthy middle aged norwegian men. Rodhal K. *N Eng J Med* 1993; 328: 533-537
 10. Curfman G D. The health benefits of exercise-a critical appraisal. *N Eng J Med* 1993; 328: 574-576
 11. Camacho T C, Roberts R E, Lazarus N B, Kaplan G A, Cohen R D. Physical activity and depression: evidence from the Alameda County study. *Am J Epidemiol* 1991; 134(2): 220-231
 12. Stein P N, Motta R W. Effects of aerobic and nonaerobic exercise on depression and self concept. *Percept Mot Skills* 1992; 74: 79-89
 13. Lozewicz S, Davidson A G, Hopkirk A, Burge P S. Occupational asthma due to methylmethacrylate and cyanoacrylates. Boldy D A R, Riordan J F, McGivern D V, Plats B W, Davies D, Newman Taylor A J. *Thorax* 1985; 40: 836-839
 14. DeZotti R, Larese F. Asma Da Collanti Cianoacrilli (case report of cyanoacrylate induced occupational asthma) *Med Lav* 1990; 81(2): 142-146
 15. Draft Approved Code of Practice Control of Respiratory Sensitisers Cumulative Document, C.D.50. Health & Safety Commission. Crown copyright (Great Britain) 1992
 16. McCleave N R. (letter) *The Police Surgeon*. April 1993; 43: 38