

PostScript

RESEARCH LETTERS

Can martial arts falling techniques prevent injuries?

Although falling techniques are taught to martial artists, athletes and paratroopers, a *BMJ* search of Highwire listed journals has discovered no mention of "falling correctly", "safe falling", etc. "Reducing the force of impact of a fall on people's bones" is discussed.¹ But the literature mentions no impact reduction techniques except for hip protectors. Exercise and muscle power in old age are recognized as helping regain balance after tripping,² but not all falls are preventable. So perhaps safe falling should also be explored.

One finds discussion of types of fall, with no discussion of those who were trained in falling.³ Studies of reactions to slipping do not distinguish athletes and martial artists from other healthy subjects.⁴ Tai Chi is mentioned as appropriate exercise for the prevention of falls,⁵ but unlike the Japanese arts, Tai Chi does not teach falling.

Although correct falling is neglected in the medical literature, there is much semi-scientific literature by martial arts masters. An internet search for *ukemi* yields useful information.

The ease with which martial artists take even very hard falls suggests the hypothesis that falling practice while relatively young can prevent injury from falls incurred later in life.

A Japanese study of 11 deaths and serious injuries in aikido from 1972-75, listed eight due to falling.⁶ Most of the victims were relative beginners, suggesting that those who practice over long periods are more protected.

However, the study population is too small to permit definitive conclusions, nor is it known how many such injuries may have gone unreported. The author admits that: "some universities were not particularly cooperative" in supplying data. New students who had suffered injury or death had been submitted to excruciating training with many repetitive falls, suggesting that the injury protection benefits of martial arts skills must be balanced against risks accompanying the process of acquiring the skills. And literature searches reveal no biomechanical evidence that martial arts falls result in fewer peak forces on the body than do everyday falls.

Martial arts tend to have rather specialized falling techniques. Aikido falls may not protect you in cases where judo falls will be effective. There seem to be no studies of the angles of falls most likely encountered in daily life, and what techniques would be generally most preventative. Martial arts practice is so strenuous that it is unlikely that large numbers will take it up. There may be an upper limit to the age at which one can start practice, although anecdotally it is not unknown to begin in one's late 50s, and at least one Japanese businessman started aikido at 70 and reached the black belt.

It is not known whether the teachers involved in the tragedies cited above had training in health sciences or injury prevention. Many martial arts teachers take extreme

care for the safety of trainees, and some are health professionals.

There is plenty of anecdotal evidence of martial artists coming out safely from quite dangerous falls. So although martial arts falling techniques may not be a solution for the general population, they may be so for a minority. It remains to be seen whether safe and enjoyable methods might be developed to teach selected falling techniques to the general population.

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References

- 1 **Chakravarty M**, Sorman A. Guidelines for prevention of falls in people aged over 65. *BMJ* 2001;322:554 [letter].
- 2 **Skelton DA**, Beyer N. Exercise and injury prevention in older people. *Scand J Med Sci Sports* 2003;13:77.
- 3 **Ellis AA**, Trent RB. Do the risks and consequences of hospitalized fall injuries among older adults in California vary by type of fall? *J Gerontol A Biol Sci Med Sci* 2001;56:M686-92.
- 4 **Marigold DS**, Bethune AJ, Patla AE. Role of the unperturbed limb and arms in the reactive recovery response to an unexpected slip during locomotion. *J Neurophysiol* 2003;89:1727-37.
- 5 **Feder G**, Cryer C, Donovan S, et al. Guidelines for the prevention of falls in people over 65. *BMJ* 2000;321:1007-11.
- 6 **Shishida F**. Aikido and injuries: special report. *Aiki News* 1989;80 (April); partial English translation of article in *Nihon Budo Gakkai Gakujutsushi* (Scientific Journal of Japanese Martial Arts Studies) 1988;21(1). Available at: http://www.aikidojournal.com/articles/_article.asp?ArticleID=497 (accessed 24 June 2003).

New trends in suicide in Japan

Suicide is the 10th leading cause of mortality in the world. It is just as common as road traffic deaths¹ and a leading cause of death among the young. 2002 was the fifth consecutive year where there were more than 30 000 suicide deaths. The rate in Japan, 25 per 100 000, greatly exceeds that of the UK (7.4 per 100 000) and that of the US or Germany, 12 and 15.8, respectively.² In 2002, 32 143 suicides were reported; this is an increase of 3.5% from 2001.

In Japan suicide victims are mostly young adults. Among those 15-24 and 40-54 it is the second leading cause of death and in 25-39 year age group it is the leading cause of death.² The rate in middle aged men (40-54 years) was five times higher than in women, perhaps because of the association between suicide, unemployment, and economic recession.³

The suicide rate per 100 000 population in Japan increased from 1995 to 2000: 17.2 in 1995, 25.4 in 1998, 25.0 in 1999, and 24.1 in 2000 (source: *Vital Statistics* 2000⁴).

Suicide is a public health problem that requires an evidence based approach to

prevention.⁴ The stigma associated with suicide and mental illness prompts the view that these are shameful or sinful conditions. This is also a barrier to treatment for persons with suicidal desires or who have attempted suicide in the past.⁵ Many suicides are preventable but as with other injuries, effective suicide prevention programs require commitment and resources.⁶

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References

- 1 **Murray CJL**, Lopez AD. *Global health statistics: a compendium of incidence, prevalence, and mortality estimates for over 200 conditions*. Cambridge, MA: Harvard University Press, 1996.
- 2 **Ministry of Health and Welfare**. *Vital statistics 2000*. Tokyo, Japan: Ministry of Health and Welfare.
- 3 **Takei N**, Kawai M, Mori N. Sluggish economic affects health of Japanese business warriors. *Br J Psychiatry* 2000;176:494-5.
- 4 **De Leo D**. Struggling against suicide: the need for an integrative approach. *Crisis* 2002;23:23-31.
- 5 **Desapriya EBR**, Iwase N. Stigma of mental illness in Japan. *Lancet* 2002;359:1866.
- 6 **Maris RW**, Berman AL, Silverman MM. Treatment and prevention of suicide. *Comprehensive text book of suicidology*. New York: Guilford, 2000: 509-35.

LETTERS

Further reflections on the seatbelt use and effectiveness issue

In a recent letter, Cummings and Rivara¹ misstate my point regarding changes in estimated belt effectiveness in the mid-1980s using the comparison of front seat occupant pairs. They cite my statement, "What is not explained by the theory [about misclassification of seatbelt use by police] is the sudden gap in police reported use by the dead and survivors that appeared in the mid-1980s"² as faulting them for not explaining why prevalence of seatbelt use changed from 1975 to 1998. How could anyone who uses the English language with a modicum of proficiency interpret "sudden" as 23 years and "gap in police reported use by the dead and survivors" as general prevalence of belt use?

Actually, a cursory look at the graph in Cummings paper that I critiqued indicates that the major reduction in risk ratios indicative of seatbelt effectiveness occurred during a short period in the mid-1980s when belt use laws were being debated and initially enacted in a few states. I noted that this debate could have changed police behavior in belt use classification in crashes, a point they ignored. I also pointed out that reductions in deaths related to on-road observations of belt use