ORIGINAL ARTICLE

Developing learning outcomes for an ideal MSc course in sports and exercise medicine

R Kordi, R G Dennick, B E Scammell

Br J Sports Med 2005;**39**:20–23. doi: 10.1136/bjsm.2003.009969

See end of article for authors' affiliations

Correspondence to: Dr Kordi, Division of Orthopaedic & Accident Surgery, C Floor, West Block, University Hospital Nottingham, Nottingham NG7 2UH, UK; msxrk@nottingham.ac.uk

Accepted 6 January 2004

Objective: To develop learning outcomes for an ideal MSc in sports and exercise medicine.
Methods: Twenty nine learning outcomes were developed based on the learning outcomes, aims, and objectives of current sports medicine courses, occupational standards, and other related data. Using a Likert scale, the opinion of MSc/Dip course directors in the United Kingdom, Ireland, Australia, New Zealand, and South Africa as well as teachers, graduates, and students of the MSc/Dip course at the University of Nottingham were surveyed. An email questionnaire listing the 29 learning outcomes was sent to the subjects. A mixed reminder via email or mail was used. The results were treated as ordinal data, and reliability and internal consistency of the questionnaire was tested using Cronbach's coefficient α.
Results: Response rates were high (75% course directors, 79%, 54%, and 78% University of Nottingham teachers, graduates, and students respectively). The questionnaire was highly reliable ($\alpha>0.8$).The total scores of all but one of the responders were above the midpoint (>87, possible range 29–145). Most course directors (>80%) agreed or strongly agreed with each of the learning outcomes, except two. Most of the other subjects also agreed or strongly agreed with the learning outcomes, with few exceptions.
Conclusion: The results suggest that there is a consensus among subjects that the final listed learning outcomes should be included in an ideal MSc in sports and exercise medicine.

Sports medicine is a relatively new and rapidly growing specialty for which, in most countries, there is not yet a recognised postgraduate training programme. Postgraduate education in sports medicine varies throughout the world from short term courses, such as the 40 hour team physician course offered by the International Federation on Sports Medicine, to long term specialty programmes, such as the five year higher specialty programme in Finland[1] and the four year course in Turkey.[2] In some countries, postgraduate courses in this field are offered as a Master of Science and Postgraduate Diploma (MSc/Dip) course (tables 1 and 2). These courses differ in their objectives, learning outcomes, and structures, especially in the United Kingdom.

As our knowledge and experience in sports medicine improves and the needs of professional and recreational athletes, clubs, and institutions involved in sports and society change, the curricula of sports medicine courses need to be developed. Specifying new learning outcomes is often the first phase of curriculum development.[3]

A learning outcome is defined as "a broad statement of what is achieved and assessed at the end of a course of study".[4] The National Committee of Inquiry into Higher Education in the United Kingdom (the Dearing Report, 1997)[5] recommended that all institutions of higher education write learning outcomes for their courses. This study focused on learning outcomes as the first phase in the curriculum development of an ideal MSc course in sports and exercise medicine.

The specialty of sports medicine will be recognised in the United Kingdom in the near future.[6] O'Brien and Mahony[7] have suggested that a unified, well structured, and coordinated MSc course, offered by universities in the United Kingdom and Ireland, should be an integral part of this scheme. Reaching consensus among different universities that offer an MSc in sports medicine regarding the learning outcomes of an ideal MSc course would be a step in the right direction. It is the purpose of this study to report on the results of such a survey.

METHODS

Listed leaning outcomes

A literature search showed no previous work on defining learning outcomes for a sports medicine MSc course on which we could base our questionnaire. Therefore 29 learning outcomes were developed based on the following six basic areas, especially from current MSc courses (table 3).

- The aims, learning outcomes, and objectives of the current MSc/Dip courses in the United Kingdom.
- MSc/Dip in sports medicine and other postgraduate sports medicine courses in other countries.
- The syllabus of the examination for the Diploma in Sport and Exercise Medicine of Great Britain and Ireland run by the intercollegiate academic board of sports and exercise medicine in the University of Edinburgh.[8] The syllabus of the examination of the diploma in sports medicine of the Society of Apothecaries of London.[9]
- Related data and articles that show policies and directions such as the "Sport and exercise medicine: policy and provision" published by the BMA.[10]
- Occupational standards in the field of sports medicine such as the "Team physician consensus statement",[11] which is a statement of different important institutions involved in sports medicine in the United States, and "Doctors' assistance to sports clubs and sporting events," published by the board of science and education of the BMA.[12]
- Short term sports medicine courses in the United Kingdom.

Written learning outcomes are broad educational outcomes that cover the main points addressed in the above basic data. The phrase "sports and exercise medicine" instead of "sports medicine" was used because the latter may refer to only professional athletes, whereas the former covers all aspects and levels of physical activities and health. A total of 29

Table 1 MSc/Dip in sports medicine offered by universities in Australia, New Zealand, Ireland, and South Africa

University	Country	Course
University of Queensland	Australia	MSc/Dip in sports medicine
Edith Cowan University	Australia	MSc in medicine (sports medicine)
University of Canberra	Australia	MSc/Dip in sports medicine
University of New South Wales	Australia	MSc/Dip in sports medicine
University of Otago	New Zealand	Diploma in sports medicine
University College, Cork	Ireland	MSc/Dip in sports medicine
University of Dublin Trinity College	Ireland	MSc/Dip in sports medicine
University of Cape Town	South Africa	MPhil degree in sports medicine

learning outcomes were defined, which included seven key and cognitive skills.

Attitude measurement

Subjects were asked to what extent they agreed that each listed learning outcome should be an outcome of an ideal MSc sports and exercise medicine course. A five point Likert scale was used: 1, strongly disagree; 2, disagree; 3, neutral; 4, agree; 5, strongly agree. A ''don't know'' choice was allowed for lack of knowledge or attitude towards the learning outcome. It was dealt with as missing data in the analysis.

Subjects

The opinion of teachers, experts in the field, and the needs of students can provide basic information for course development and the writing of learning outcomes.[3 13] Among experts in sports medicine, the attitudes of the directors of MSc/Dip sports medicine courses listed in tables 1 and 2 were sought. For the opinions of teachers and students, the teachers, graduates (graduated in 1999–2002), and current students of the course at the University of Nottingham were evaluated.

Email survey

Subjects were sent an email requesting their opinions of the learning outcomes and directing them to an on line questionnaire via a hyperlinked web address embedded in the email. In the case of non-response, an email was sent as a reminder two weeks later. A second reminder was sent by mail one week after the first reminder.

Table 2 MSc/Dip in Sports medicine and related courses offered by universities in the United Kingdom

University	Course
Universities of the City of Glasgow	MSc/Dip in medicine and science in sport and exercise (MSc/Dip in medicine, science or therapy)
Sheffield Hallam University	MSc in sport injury with pathways in medicine, physiotherapy and science
Manchester metropolitan University	MSc/Dip in science of sports injury
University of Wales	MSc/Dip in sports and exercise medicine MSc/Dip in sports physiotherapy
Queen Mary University of London	MSc in sports medicine
University of Ulster	MSc/Dip in sport and exercise medicine
University College London	MSc/Dip in sports physiotherapy MSc in sports and exercise medicine
University of Bath	MSc/Dip in sport and exercise medicine
Leeds Metropolitan University	Dip/MSc sports and exercise injury management
University of Nottingham	Msc/Dip in sports medicine
South Bank University	MSc/Dip in sports physiotherapy
University of Salford	MSc/Dip in sports rehabilitation

Analysis

The data were treated as ordinal data. Each subject's total score, the sum of the scale scores of all items, was used to show the degree of agreement with the listed learning outcomes. Both ''strongly agree'' and ''agree'' were used as indicators of agreement. As a result, the sum of the percentages of ''strongly agree'' and ''agree'' was used to show agreement with each learning outcome and to perform a general ranking of them. Cronbach's coefficient α was used to evaluate the reliability of our questionnaire and interitem correlation of learning outcomes.

Table 3 Listed learning outcomes in the questionnaire

On completing the course, students will be able to show and demonstrate knowledge and understanding, qualities, skills, and other attributes in the following areas

Knowledge and understanding and skills in specific subjects

1. Prevention, diagnosis, and treatment of injuries related to exercise and sports.
2. Prevention, diagnosis, and treatment of diseases related to exercise and sports.
3. Rehabilitation of sports injuries and the role of physical activity in rehabilitation.
4. The principles of human nutrition and its application to exercise and sports.
5. Sports medicine issues of special groups (children, adolescents, older and handicapped people).
6. Sports medicine issues of the female athlete.
7. The principles of sports psychology.
8. The use and abuse of drugs in sports and doping.
9. How to deal with most medical emergencies likely to be encountered during sports events and advise on the organisation of medical cover for sports events.
10. The science of exercise and training.
11. The principles of biomechanics applied to different sporting and exercise activities and the injury context.
12. Sports physiology.
13. Anatomy relevant to sport, exercise and sports injury.
14. Effects of environmental conditions and travelling on athletes and sports activities.
15. To understand the particular needs in athletes suffering from a medical condition.
16. Advice on exercise and sport for patients with chronic conditions such as cardiovascular diseases and diabetes.
17. The role of exercise and sports on public and individual health.
18. To define guidelines for the scientific monitoring and training of athletes.
19. Theory and practice of different sports.
20. The role of the main organisations of sport, sports medicine, and health promotion at national and international levels.
21. Ethics and the law in sports medicine.
22. Research methodology skills and the ability to perform research.

Key and cognitive skills

23. Communication.
24. Using information technology.
25. Problem solving.
26. Ability in critical analysis.
27. Lifetime learning.
28. Scientific evaluation of evidence and outcome.
29. Team working.

Table 4 Cronbach's coefficient α for different groups of subjects

Subjects	α
Course directors	0.8893
Teachers	0.9427
Graduates	0.9253
Students	0.9233

RESULTS

Description of subjects and response rate

Graduates

There were 61 graduates (34 medical doctors, 21 physiotherapists, two osteopaths, two exercise therapists, and two chiropractors) who studied MSc/Dip in sports medicine at the University of Nottingham and graduated from 1999 to 2002. The response rate of graduates was 54%.

Teachers

There were 56 teachers on the course. There were 11 sports medicine specialists, 14 orthopaedic surgeons, nine physiotherapists, and 22 specialists in the other fields such as public health, anatomy, nutrition, physiology and metabolism, radiologist, ophthalmic surgery, rheumatology, and cardiovascular medicine. The response rate of teachers was 79%.

Students

There were 32 students studying the course, 20 doctors and 12 other professionals, mainly physiotherapists. The total response rate was 78%.

Course directors

The response rate of 20 course directors was 75%.

Results

Table 4 shows Cronbach's coefficient α for different groups of subjects.

There are 29 items (learning outcomes) in the questionnaire, and the scores were given weights as follows: strongly disagree, 1; disagree, 2; neutral, 3; agree, 4; strongly agree, 5. Therefore the maximum possible score was 145, the minimum 29, and the central score 87. Attitudes between "agree" and "strongly agree" scored more than 116. All of the total scores of the subjects, except one teacher, were more than the midpoint of 87, and 93%, 66%, 64%, and 48% of total scores of course directors, teachers, graduates, and students respectively were more than 116.

Learning outcomes are ranked on the basis of the sum of the percentage of the "strongly agree" and "agree" (table 5). Median scores of different groups of subjects for different learning outcomes were 4 and 5, except the learning outcomes 19, which was 3 for all groups, and 20, which was 3 for teachers.

DISCUSSION

Correlations among learning outcomes

The values of Cronbach's coefficient α for all groups shows good reliability (>0.8), which is based on high interitem correlations.[14] It suggests that the learning outcomes are reasonably consistent and have good interitem correlations. It also shows the good reliability of the questionnaire.

Opinion of the subjects on the whole list of learning outcomes

The total scores of all the subjects, except one teacher, are above the midway point. It shows a positive attitude toward the idea that "the listed learning outcomes should be the learning outcomes of an ideal MSc in sports and exercise medicine". It indicates that all subjects generally agree with

Table 5 Ranking of the learning outcomes based on the sum of the percentage of "strongly agree" and "agree" (%SA+A)

Course directors		Teachers		Graduates		Students	
No LO	%SA+A	No LO	%SA+A	No LO	%SA+A	No LO	%SA+A
1	100	1	97.7	1	100	1	100
3	100	3	95.4	4	100	13	100
5	100	13	95.3	13	100	4	96.0
6	100	2	95.2	9	97.0	23	96.0
7	100	28	93.2	12	97.0	24	95.8
11	100	8	93.0	14	97.0	9	92.0
12	100	10	93.0	2	93.9	28	92.0
25	100	25	90.9	6	93.9	12	91.7
26	100	12	90.7	8	93.9	27	90.0
28	100	23	88.6	10	93.9	2	87.7
4	93.3	26	86.4	28	93.9	14	84.0
8	93.3	4	86.0	3	90.9	26	84.0
10	93.3	9	86.0	5	90.9	29	83.3
14	93.3	5	83.7	11	90.9	6	80.0
15	93.3	15	83.3	23	87.9	18	80.0
21	93.3	24	81.8	15	84.8	25	80.0
22	93.3	27	81.4	25	84.8	3	76.0
23	93.3	16	79.1	29	84.8	8	76.0
29	93.3	29	77.3	26	81.8	22	76.0
16	92.9	6	76.7	7	80.0	17	75.0
17	92.9	7	76.7	18	78.1	10	72.0
2	86.7	11	76.7	27	78.1	15	72.0
9	86.7	17	76.7	17	75.8	5	68.0
13	86.7	22	73.8	22	75.8	7	68.0
27	85.7	14	72.1	16	69.7	16	68.0
20	80.0	21	67.4	24	69.7	21	62.5
24	80.0	18	50.2	21	66.7	11	56.0
18	60.0	20	38.6	20	51.5	20	52.0
19	40.0	19	27.9	19	45.5	19	44.0

No LO, Number of learning outcome as numbered in table 3.

What is already known on this topic

Postgraduate education in sports medicine varies throughout the world. Current MSc courses in sports medicine differ in their objectives, learning outcomes, and structures, especially in the United Kingdom.

What this study adds

This study provides a consensual list of learning outcomes for an ideal MSc course in sports and exercise medicine compiled from experts in this field including directors of current MSc courses in sports medicine.

all of the listed learning outcomes and there is a consensus among all groups of subjects.

A total score of 93% of course directors, 66% of teachers, 64% of graduates, and 48% of students of more than 116 shows a strong positive attitude or agreement towards the specified learning outcomes.

Final list of learning outcomes

As shown in table 5, except for learning outcomes 18 and 19, most course directors (>80%) agreed or strongly agreed with each of the other learning outcomes. Most of the other subjects also agreed or strongly agreed with nearly all of the learning outcomes. Subjects had a less positive attitude about the learning outcomes that are at the bottom of table 5. It seems that there is no recommended cut off point that could be used to decrease the number of learning outcomes based on the percentage of agreement (sum of ''agree'' and ''strongly agree''). However, if agreement of two out of three (66.66%) subjects is used as a cut off point, the following learning outcomes have less agreement for different groups of responders:

- course directors: learning outcomes numbers 18 and 19.
- teachers: learning outcomes numbers 18, 19, and 20.
- graduates: learning outcomes numbers 19 and 20.
- students: learning outcomes numbers 11, 19, 20, and 21.

All groups agreed less with learning outcome number 19. With learning outcomes numbers 18 and 20, at least two groups of responders agreed less. Therefore, in this study, learning outcomes numbers 18, 19, and 20 could be omitted from the list. Also the medians of the scores support the assertion that the subjects agreed less with learning outcome number 19.

It seems that, on the basis of the opinion of the course directors, all of the listed learning outcomes, except numbers 18 and 19, should be included in an ideal MSc in sports and exercise medicine. On the basis of the opinion of all subject groups, all of the listed learning outcomes, except number 19 should be included in the course. If one widens the cut off, then it is suggested that learning outcomes 18, 19, and 20 could also be omitted.

It has been suggested that the optimal number of learning outcomes for a course is between 8 and 12,[3] and the final list of learning outcomes identified here could be summarised to achieve that number.

Some other data are important in developing the learning outcomes for an ideal MSc course in sports and exercise medicine, such as the needs of athletes and society and the opinion of other experts such as teachers and graduates of other MSc courses, which was not addressed in this study. Also other factors can be important, such as the duration and entrance requirements of the course. The duration of MSc courses in the United Kingdom are one year and in Australia generally more than one year. The courses are restricted to doctors in some universities, commonly in Australia, but are not in others.

Despite this, all the course directors and nearly all of the other subjects are agreed that the listed learning outcomes should be included in an ideal MSc in sports and exercise medicine. We suggest that they could be useful to universities in designing new MSc courses in the future.

ACKNOWLEDGEMENTS

We thank Mrs Narges Shah Hoseini for designing the web based questionnaire.

Authors' affiliations

R Kordi, Sports Medicine Centre, Tehran University of Medical Sciences, Tehran, Iran
R G Dennick, Medical Education Unit, Medical School, University of Nottingham, Nottingham, UK
B E Scammell, Division of Orthopaedic & Accident Surgery, Queen's Medical Centre, University of Nottingham

Conflict of interests: none declared

REFERENCES

1 **Kannus P**, Parkkari J. Sports and exercise medicine in Finland. *Br J Sports Med* 2000;**34**:239–40.
2 **Yaman H**. Sports medicine training in Turkey. *Br J Sports Med* 2002;**36**:258–9.
3 **Smith SR**, Dollase R. AMEE guide No. 14: outcome-based education, Part 2.Planning, implementing and evaluating a competency-based curriculum. *Med Teach* 1999;**21**:15–22.
4 **Harden RM**. Learning outcomes and instructional objectives: is there a difference? *Med Teach* 2002;**24**:151–5.
5 **National Committee of Inquiry into Higher Education**. 1997. www.leeds.ac.uk/educol/ncihe/ (accessed 3 Feb 2003).
6 **Macleod DAD**. Intercollegiate Board for Sport and Exercise Medicine. *Br J Sports Med* 2000;**34**:235.
7 **O'Brien M**, Mahony N. The role of a masters degree as part of higher training in sports and exercise medicine or why do a masters? *Br J Sports Med* 2000;**34**:237–8.
8 **Intercollegiate Academic Board of Sport and Exercise Medicine**. The Diploma in Sport and Exercise Medicine of Great Britain and Ireland, Regulations. 1999. www.rcsed.ac.uk/exams/misc/IABSE.asp (accessed 25 Feb 2002).
9 **The Society of Apothecaries of London**. Diploma in Sports Medicine. 1997. www.apothecaries.org.uk/downloads/dism.do (view as HTML) (accessed 25 Dec 2002).
10 **The Board of Science**, Education of the BMA. *Sport and exercise medicine: policy and provision*. London: British Medical Association, 1996.
11 **Team Physician Consensus Statement**. *Am J Sports Med* 2000;**28**:440–2.
12 **British Medical Association**. Doctors' assistance to sports clubs and sporting events. *Pre-hospital Immediate Care* 2001;**5**:53–6.
13 **Kern DE**, Thomas PA, Howard DM, *et al. Curriculum development for medical education: a six step approach*. Baltimore: Johns Hopkins University Press, 1998.
14 **Oppenheim AN**. *Questionnaire design, interviewing and attitude measurement*. London: Continuum, 2001.

SportsMedUpdate

SAGITTAL MOVEMENT OF THE MEDIAL LONGITUDINAL ARCH IS UNCHANGED IN PLANTAR FASCIITIS

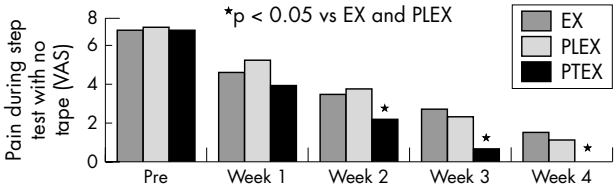
Wearing SC, Smeathers JE, Yates B, *et al. Med Sci Sports Exerc* 2004;**36**:1761–7

Background:
It has been suggested that a lowered medial longitudinal arch is a causal factor in the development of plantar fasciitis, but there is little evidence to support this hypothesis.

Research question/s:
Does sagittal movement of the arch during gait differ in subjects with and without plantar fasciitis?

Methodology:
Subjects: 20 subjects: 10 subjects with unilateral plantar fasciitis (PF) and 10 matched controls (CON).
Experimental procedure: All of the subjects underwent walking at a self-selected speed during which digital fluoroscopy was used to acquire dynamic lateral radiographs from each subject by digitising and then recoding the respective maxima of (1) arch angle; and (2) first metatarsophalangeal joint (MTPJ) angle. Sagittal movement of the arch was defined as the angular change between heel strike and the maximum arch angle observed during the stance phase of gait. The thickness of the proximal plantar fascia was determined from sagittal sonograms of both feet.
Measures of outcome: Arch angle (maximum and movement) and MTPJ angle, plantar fascia thickness

Main finding/s:
- Arch angle: there was no significant difference in either the movement or maximum arch angle between limbs
- MTPJ angle: subjects in the PF group had larger MTPJ angle compared with CON subjects ($p<0.05$)
- There was a significant correlation ($p<0.05$) between fascial thickness and peak arch and metatarsophalangeal joint angles ($p<0.05$) in the symptomatic limb



Conclusion/s:
- Patients with chronic plantar fasciitis do not have an abnormal shape or greater movement of the medial longitudinal arch during walking
- Arch mechanics may influence the severity of plantar fasciitis, once the condition is present
- Digital flexion, in contrast, has a protective role in what might be a bilateral disease process

Evidence based rating: 7/10 **Clinical interest rating:** 7/10
Type of study: Case control study
Methodological considerations: Well conducted study, no cause effect can be demonstrated, two dimensional analysis
Keywords: biomechanics, fluoroscopy, foot arch, heel spur, ultrasound

EFFECTS OF TAPING ON PAIN AND FUNCTION IN PATELLOFEMORAL PAIN SYNDROME: A RANDOMISED CONTROLLED TRIAL

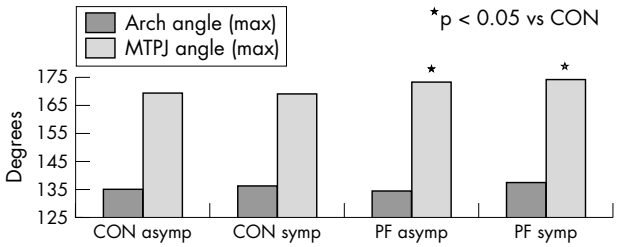
Whittingham M, Palmer S, Macmillan F. *J Orthop Sports Phys Ther* 2004;**34**:504–10

Background:
Two common treatments for patellofemoral pain syndrome are patella taping and muscle strengthening exercises.

Research question/s:
Does daily patella taping and exercise reduce pain and improve function in individuals with patellofemoral pain syndrome?

Methodology:
Subjects: Thirty subjects (24 male, six female) (mean age 18.7 years) with patellofemoral pain syndrome.
Experimental procedure: All of the subjects were randomly allocated to one of three treatment groups: Patella taping combined with a standardised exercise programme (PTEX), placebo patella taping and exercise programme (PLEX), or exercise programme alone (EX) (10 in each group). Taping was applied and exercises were performed on a daily basis for 4 weeks. Pain (VAS) and functional index questionnaires were recorded at weekly intervals by a therapist who was blinded to group allocation.
Measures of outcome: Pain (24 hour, step test), function.

Main finding/s:
There were better pain and function scores following treatment in the PTEX group, compared with the PLEX and the EX group, but no significant differences between the PLEX and the EX groups at any time point.



Conclusion/s:
- A combination of daily patella taping and exercises over 4 weeks successfully improved pain and function in individuals with patellofemoral pain syndrome
- The combination of patella taping and exercise was superior to the use of exercise alone

Evidence based rating: 7.5/10 **Clinical interest rating:** 8/10
Type of study: Randomised controlled clinical trial
Methodological considerations: Small sample size in each group, short-term follow up, military recruits –that could attend all sessions
Keywords: knee, patella, patellofemoral pain, syndrome, taping

WALKING AND DEMENTIA IN PHYSICALLY CAPABLE ELDERLY MEN

Abbott RD, White LR, Ross GW, *et al. JAMA* 2004;**292**:1447–53

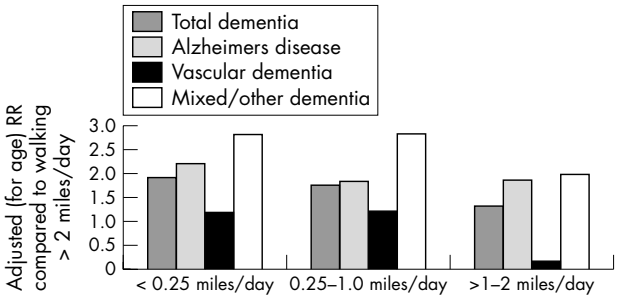
Background:
Increased physical activity is associated with reduced clinical expression of dementia, but whether this includes low intensity activity such as walking is not known.

Research question/s:
Does regular walking reduce the risk of dementia in older men?

Methodology:
Subjects: 2257 physically capable men (ages 71–93 years) (part of the Honolulu-Asia Aging Study)
Experimental procedure: The daily walking distance walked was assessed in the subjects over 2 years (1991–1993). Subjects were then followed up for the development of dementia (overall dementia, Alzheimer disease, and vascular dementia) (based on neurological assessment at two repeat examinations in 1994–1996 and in 1997–1999). In this period 158 cases of dementia were identified (15.6/1000 person-years).
Measures of outcome: Walking distance (miles/day) was related to the development of dementia.

Main finding/s:

- Men who walked the least (<0.25 miles/day) experienced a 1.8-fold increased risk of dementia compared with those who walked >2 miles/day (17.8 vs 10.3/1000 person-years)
- An excess risk of dementia was also observed in those who walked 0.25–1 miles/day (17.6 vs 10.3/1000 person-years; RH, 1.71; 95% CI 1.02 to 2.86) compared to those who walked the most (>2 miles/day)
- These associations persisted after accounting for other factors, including the possibility that limited amounts of walking could be the result of a decline in physical function due to preclinical dementia



Conclusion/s:

- Regular walking in elderly men (>2 miles/day) is associated with a reduced risk of dementia
- Promoting active lifestyles in physically capable men could help late-life cognitive function

Evidence based rating: 7.5/10 **Clinical interest rating:** 7.5/10
Type of study: Prospective cohort study
Methodological considerations: Observational study, no females included
Keywords: dementia, elderly, men, physical activity, risk, walking

PREDICTORS OF EXERCISE BEHAVIOUR IN PATIENTS WITH RHEUMATOID ARTHRITIS 6 MONTHS FOLLOWING A VISIT WITH THEIR RHEUMATOLOGIST

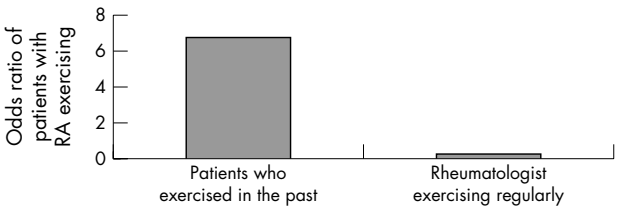
Iversen MD, Fossel AH, Ayers K, *et al. Phys Ther* 2004;**84**:706–16

Background:
If factors that influence exercise behaviour are known, health care professionals can more likely design and modify patient education materials targeted to promote exercise behaviour.

Research question/s:
Which factors predict exercise behaviour in patients with rheumatoid arthritis 6 months after a visit with their rheumatologist?

Methodology:
Subjects: 113 patients (mean age 54.8 years, 79% female) with rheumatoid arthritis (mean duration 9.8 years) who completed the 6-month follow up (85.6% of the original group).
Experimental procedure: Rheumatologists and patients completed baseline questionnaires and were audiotaped during a subsequent visit. Physical function and exercise behaviour were ascertained via questionnaire 6 months following the visit.
Measures of outcome: Multivariate logistic regression identified predictors of exercise behaviour at 6 months.

Main finding/s:
Thirty-four patients (27%) were exercising 6 months after visiting their rheumatologist. More than 50% of the rheumatologists had five or more years of clinical experience, 18 (72%) were male, and 10 (42%) reported they exercised regularly.



Conclusion/s:

- Patients with rheumatoid arthritis were nearly seven times more likely to exercise 6 months after visiting their rheumatologist if they participated in exercise in the past, and if the patient's rheumatologist was currently performing aerobic exercise, the patient was 26% more likely to be engaged in exercise at follow up
- These data may be useful in understanding patient motivation to participate in exercise

Evidence based rating: 7.5/10 **Clinical interest rating:** 7/10
Type of study: Prospective cohort study
Methodological considerations: Small sample size, lack of generalisability to all patients with RA, confounding variables influencing exercise behaviour not examined
Keywords: exercise behaviour, rheumatoid arthritis