Sports Medicane Essay, Research Paper

The Sports Medicane Profession has responded to the rise in over use injuries by

placing greater emphasis on injury prevention, developing new diagnostic and treatment

techniques, and promoting rehabilitation as an aid to full recovery. This is what Dr. Lyle J.

Micheli, one of the nations foremost sports medicane authorities, calls the “new sports

medicane.”

Below is an example of what a typical sports doctor will do before getting their degree:

It has become increasingly evident over the past 25 years that there is a need for

data on injury rates for the variety of sports and physical activities in which people of all

ages are becoming involved. The research literature on the epidemiology of sports-related

injuries has been growing slowly as various individuals and groups have attempted to

gather data on the risks of participating in various sports. Almost all of these attempts

have focused on sports in an organized setting, for younger age groups, and have involved

relatively short-term observations. With the recent increase in participation in general

fitness activities, and with such participation being encouraged by the medical community

as a public health intervention to promote healthy lifestyles, it often is not realized there is

little or no dependable data available to assess the risks involved in participation in

physical activities. Much effort is being expended in defining the benefits of exercise, but

little is being done to define risk levels. Such information is needed in order to make

informed decisions as to the value of participating in a particular activity, and to provide

clues as to how injury rates can be reduced.

This paper presents some of the preliminary results on exercise patterns and injury rates

for a six month study of a small sample of regularly exercising subjects. This pilot study

was undertaken to test data collection forms and procedures for a planned longitudinal,

prospective study of exercise and injury patterns in a large sample of middle-aged and

older adults.

As a pilot study of activity and injury patterns in middle-aged adults, data were

collected monthly for 6 months from 25 regularly exercising adults (19 male, 6 female)

aged 43-70 years (mean 54.0 yr). Each subject completed a daily exercise log noting type,

duration and intensity of exercise, and distance covered (if appropriate). Any injuries or

illnesses causing restriction of normal activity were recorded on separate check-off forms.

Reports were received each of the 6 months from all subjects. The subjects accumulated

3209 exercise sessions, totaling 2631 hrs. The predominant activities were running (2128

sessions; 1780 hrs; 19,638 km), weightlifting (357 sessions; 181 hrs), walking (228

sessions; 195 hrs; 1064 km) and cycling (109 sessions; 78 hrs; 1992 km). All other

exercise activities (e.g., tennis, swimming, rowing, water running) totaled 388 sessions

and 397 hrs. The subjects averaged 4.0 hrs/week of exercise in 4.9 sessions/week of 49

min/session. Two-thirds of the sessions involved running, and 21 subjects ran regularly.

These subjects ran an average of 3.9 times/week, 50.2 min/session, 38.2 km/week, 9.3

km/session at 5:24/km pace. While running was the predominant activity in this sample,

each subject participated regularly in an average of 2.2 different exercise activities, and

participated at least once in an average of 3.4 different activities during the period of this

study. There were 30 time-loss injuries attributed to exercise in this sample, 23 involving

the lower extremities. One-third of the total injuries involved the knee. There were 9.3

injuries/1,000 exercise sessions or 11.4 injuries/1,000 hrs of exercise. Each injury lasted an

average of 10.7 days before return to unrestricted activity. However, many injuries

resulted in modification of activity (e.g., decreased frequency, distance, pace, or doing

alternative activities) rather than complete restriction of exercise. During this period there

were 10 injuries recorded that did not involve exercise, 5 being lower back strains, with an

average time-loss of 17.2 days. There also were 17 illnesses reported, primarily colds and

flu, with an average time-loss of 7.4 days. Based on the results from this small pilot study,

a middle-aged exerciser can expect 2.4 exercise-related injuries per year with a total of

25.8 days of modified or restricted activity, 0.8 non-exercise injuries per year with 13.8

days of restricted activity, and 1.4 illnesses affecting 10.4 days. On the average, this

middle-aged exerciser can expect 4.6 injury or illness episodes affecting 50 days each year.

Twenty-five volunteer subjects were obtained from the local community (Eugene-

Springfield, Oregon USA). They were all regularly exercising adults (19 male, 6 female)

ranging in age from 43 to 70 years old (mean age = 54.0 years). Each subject signed an

informed consent form and received a set of forms for recording daily exercise activity,

injury/illness report forms, self-addressed stamped envelopes for returning the forms, and

a set of detailed instructions for completing the forms. They also completed a

questionnaire regarding previous exercise and injury history. The primary data collection

forms are modifications of forms developed and used by the author over the past several

years for a variety of studies of athletic injuries. They are designed to be as brief and

simple to use as possible (thus increasing the probability that the forms will be completed

and returned, and that the data will more likely be accurate) and yet yield sufficient

information on injuries and exposure to the possibility of being injured to calculate and

analyze injury rates and patterns.

Subjects were instructed to record on a Daily Exercise Log each exercise sessionof any

type that increased the heart rate for a minimum of 15 minutes. These forms collected data

on the type, duration and intensity of exercise, and distance covered (if appropriate to the

type of exercise). This provided exposure data or denominator data for calculating injury

rates. The subjects also recorded on an Injury/Illness Report Form any injury or illness

that: a) required formal or informal medical attention, and/or b) resulted in modification or

restriction of normal activities for the remainder of that day or one or more days beyond

the date of onset. These check-off forms collected data regarding the site, nature,

circumstances and severity of the injury. The forms were returned at the end of each

month using the stamped, self-addressed envelopes provided. Upon receipt in the project

office, the forms were logged in and screened for completeness and logical consistency.

Subjects were contacted regarding missing forms or data, or any questionable entries on

the forms. After screening, the data from the forms were entered into computer files for

storage and later analysis using locally developed software. Subjects completed and

returned these forms for a six month period (1 January 1990 – 30 June 1990).

Forms were received from all 25 subjects for each of the six months of this pilot study.

The subjects accumulated 3,209 exercise sessions totaling 2,631 hours, averaging nearly 5

sessions per week of about 50 minutes per session. Table 1 summarizes the amount of

exercise activity in this sample, and provides a breakdown by gender and age group. In

this particular sample, running/jogging comprised two-thirds of the exercise sessions

(Table 2). Twenty-one of the subjects ran regularly, averaging nearly 4 sessions per week,

50 minutes per session, and 9.3 km per session at a pace of 5:24/km. Table 2 summarizes

the exposure data for the three predominant activities (running, walking and weightlifting),

and the cumulative totals for the other exercise activities, which included swimming,

cycling, tennis, aerobics, rowing, stair climbing, water running, basketball, and various

field events (long jump, pole vault, shot put, etc.). Although a majority of the subjects

were from a local masters track club, each subject participated regularly in an average of

2.2 different exercise activities, and participated at least once during the period of this

study in an average of 3.4 different exercise activities.