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## Introduction

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### Thoughts on the aging process:

*'You gotta move.'* (1)

— Rock 'n Roll legends,  
Mick Jagger and Keith Richards

*'How old would you be if you didn't know how old you was?'* (2)

— Baseball legend, Satchel Paige

Almost three hundred years ago, Sir Isaac Newton developed his theory of the laws of motion. The first law states that: (1) a body at rest tends to remain at rest; and (2) a body in motion will continue along a linear path at a constant velocity, barring any interactions with the rest of the universe. For the human body, to remain physically inactive for prolonged periods of time has many harmful consequences including loss of cardiovascular fitness, and reduction of connective tissue mass. By imploring us to move, Jagger and Richards clearly recognize that to remain in motion is beneficial, as with regular exercise the functional capacities of the cardiorespiratory and musculoskeletal systems can be improved. As we age, illness, musculoskeletal injury, and iatrogenesis all threaten our ability to continue to participate in athletics. The goal for health care providers is to identify and treat conditions (or in Newtonian terms, interactions) which promote immobility and the consequent deterioration of multiple organ systems.

Shortly after the turn of the twentieth century, Albert Einstein formulated his theory of relativity. Central to this theory is the principle that the laws of physics and time are the same in all frames of reference moving at constant velocity with respect to one another. However, when one body is moving and another is not, time intervals (or life processes) occur more slowly for the body in motion — a moving clock ticks more slowly than one at rest. Therefore, if one remains in motion (i.e. exercise regularly) 'aging' truly is a relative term. It is evident that Paige understood Einstein's time dilation principle and recognized that although we all get chronologically older with each passing day, we do not all 'age' at the same rate.

For athletes, as long as they are able to participate in the activities that they enjoy, time does appear to progress more slowly. The active elderly patients I see in my practice appear to be much more fulfilled, much healthier and much more comfortable with their status in life than their less physically active counterparts. Unfortunately, many of these athletes also express frustration with regard to practitioners who are either willing to attribute all musculoskeletal problems to 'arthritis' or who see reduction of activity and prescribing medications as the answer. The challenge facing many elderly athletes is finding sports medicine professionals who understand that participation in sports and recreational activity is just as important at age 80 as it is at age 18.

The contributors to this volume of the *Journal of Back and Musculoskeletal Rehabilitation* all have experience working with senior athletes. Dr. Hill shares his knowledge of management and outcome of knee injuries while Drs. Fisher and Pendergast review their work on exercise in patients with osteoarthritis of the knee. Issues related to alteration in bone mass with aging are covered by Dr. Favus. Dr. Hayes gives a concise overview of the radiologic evaluation of the shoulder. An overview of the changes in the spine which occur with aging is provided by Dr. Buschbacher, while principles of spine rehabilitation are presented by Ms. DeWerd. Dr. Press and I present the effect of aging upon athletic performance. Finally, we benefit from the insight of those who actually 'walk the talk' — athletes like Mr. Young, Dr. Armstrong and Mr. and Mrs. Kelleher who have

continued to exercise despite advanced age and injury.

As this volume goes to press, I would like to express my sincere gratitude to Dr. Rucker and the other contributors. Their hard work will hopefully foster greater interest among other sports medicine professionals to offer their skills to senior athletes. Special thanks are reserved for Ms. Donna Kinder, assistant editor, who coached me through the editorial process and, without whom this issue would not have made it to press on time.

#### References

- [1] E.M.I. Music Publishing: The Rolling Stones Complete. London: William Clowes Limited, 1981.
- [2] Adler B: Baseball Wit. New York: Crown Publishers Inc., 1986.