Chapter 24 by T. M. Hansen is concerned with the production of collagen in granulation tissue from the point of view of the antigenic and immunologic properties of collagen. The ability of collagen to bind antigens to aggregate thrombocytes, to exhibit chemotaxis and to inactivate complement may be of pathogenic relevance for the development of chronic inflammatory processes in connective tissue. Hansen's paper presents a method of producing granulated tissue by implanting synthetic sponges subcutaneously. Chapter 25 by Zederfeldt discusses various factors influencing wound healing. This is a truly well-written short introduction to the subject. Chapter 26 by Fogdestam and Gottrup discusses method of measuring strength of tissues during wound healing.

I believe that the wound healing process is stress modulated. But the influence of stress field on wound healing is not mentioned by any of these papers! This marks a fundamental difference in the points of view between orthopedic surgeons and plastic and general surgeons. In bone research, Wolff's law has been accepted for a long time. Healing of bone requires an appropriate stress being applied to the bone: the stress must not be too large, neither should it be too small. An optimal range exists for growth. Stresses outside the range lead to resorption. There is evidence that the growth of soft tissue is also stress modulated. Perhaps we will hear more about this in the future.

In conclusion, I recommend this book for any bioengineer's bookshelf.

The Biomechanics of Sports Techniques, 2nd Edition, by James G. Hay, University of Iowa, 519 pp. Prentice-Hall, Englewood Cliffs, N.J. 1978.

This is a delightful book. It is written for physical educators, coaches of athletic teams, and athletes. In this book the basic concepts are very clearly presented, and then applied to the analysis of sports techniques. Chapter 1 is an introduction (8 pp.) Chapters 2–7 (157 pp.) deal with basic concepts: forms of motion, linear kinematics, angular kinematics, linear kinetics, angular kinetics, and fluid mechanics. Chapters 8–17 are analysis of sports techniques. The successive chapter headings are: Baseball, Basketball, Football, Golf, Gymnastics, Softball, Swimming, Track and Field, Running, Jumping, and Throwing. This part occupies 314 pages, and is quite exhaustive. For each sport, the analysis is divided into two parts: Basic Considerations and Techniques. The former deals with the factors involved. The latter gives details with particular emphasis on those areas where there are known to be disagreements among teachers and coaches.

The new edition incorporates new findings of current research. As the author says: "The techniques employed in sports sometimes change at an almost bewildering rate, so that those concerned have a difficult time keeping abreast of them." For example, in the few years since the text was first published, the grab start has almost universally accepted as the fastest starting technique in swimming; the rotational technique has become accepted as a viable alternative to the long-dominant O'Brien technique in short putting; the standing start, recently thought to be a similarly viable alternative to the traditional crouch start in sprinting, has been outlawed by a rule change; and the somersault long-jumping technique has arrived, been banned, and departed. The new techniques are discussed in the book.

I recommend this book to all people interested in biomechanics, not only athletes and coaches, but also to bioengineers, orthopedic surgeons, physiologists, and general readers. It is easy to read and easy to understand, and will make people enjoy sports more.

Fundamentals of Sports Biomechanics, by Charles Simonian, Ohio State University, 221 pp., Prentice-Hall, Englewood Cliffs, N.J. 1981.

This is a textbook for students of physical education, athletic coaching, and dance. It is written in an elementary manner. No prerequisite knowledge of physics or mathematics beyond what is ordinarily taken in high school is necessary. It discusses force, motion, work, energy, and concludes with a chapter on applications to physical education and sports. The treatment is quite brief, with one page on swimming, one page on bowling, one page on diving, one page on gymnastics, etc. Well written and smooth, this book requires little effort on the part of the reader.

Rheological Techniques by R. W. Whorlow, 447 pages, $94.95, first published by Ellis Horwood Ltd., Chichester, distributed by Halsted Press, a division of Wiley, New York, 1980.

Biorheology is a bioengineer's intimate concern, and this book is important to bioengineering. In this book various rheological techniques and instruments are discussed in detail. It is written as a textbook, but is also a reference book. At the end of the book there is an Appendix on commercially available apparatus, including a list of addresses of manufacturers. This will be very useful to people who are choosing instruments.

The chapters headings are as follows:

1. Deformation and Stress
2. Tube Viscometers
3. Rotational Viscometers
4. Creep and Stress Relaxation
5. Dynamic Tests
6. Wave Propagation
7. Analysis of Viscoelasticity Measurements

The mathematical level is elementary. The text is lucid. The references list is comprehensive and up-to-date. Illustrations are good, well drawn and nicely printed. I strongly recommend this book to bioengineers who are concerned with biorheology.

Foundations of Physiological Instrumentation, A Source Book with Experiments, by Normal N. Goldstein and Michael J. Free, 384 p., $39.50, Charles C. Thomas, Springfield, Ill., 1979.

I was looking for a textbook for the undergraduate course in laboratory experiments in bioengineering, and was delighted to find this book. It is well written, and sufficiently comprehensive and detailed for the students. It will be convenient for the instructor to use.

The book is divided into two parts. Part One, entitled *Foundations*, contains the following chapters:

1 Basics and Overview
2 DC and AC Theory
3 Principles of Amplification
4 Noise
5 Instruments and Systems
6 Transducers
7 Processing Signals
8 Electric Safety

Part Two, entitled *Experiments*, contains the following:

1 Membranes, Selective Permeability
2 Frog Sciatic Nerve

Sports and Exercise Biomechanics. Introduction to sports biomechanics concepts and their application to movement. Importance and functions of sports biomechanics. Axes and planes of the body. Range of body motions (ROM). Forces and their application in sports. Linear and angular types of Motion and their determinants. Human muscle. Weight and movement. Friction. MOMENTUM, IMPACT AND IMPULSE. Energy and uses of energy to perform work. Concepts of body power. Strength. Efficiency in sports movement. SPORTS BIOMECHANICS - is the application of the principles of biomechanics to the study of human motion in sports and exercise. Bio-Mechanics - has two branches. Kinematics - Descriptive nature of movement.Â 1. Biomechanical analysis of takeoff technique in fos bury flop style in high jump. 2. Biomecanical analysis of fundamental skills of basketball. 3. Sports Bio-Mechanics working with cricket gurukul and carpotaral sports. Videos. View All Videos.