



Reaching Your Potential

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Sports Medicine & Science Institute

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International DanceScience Development Initiative

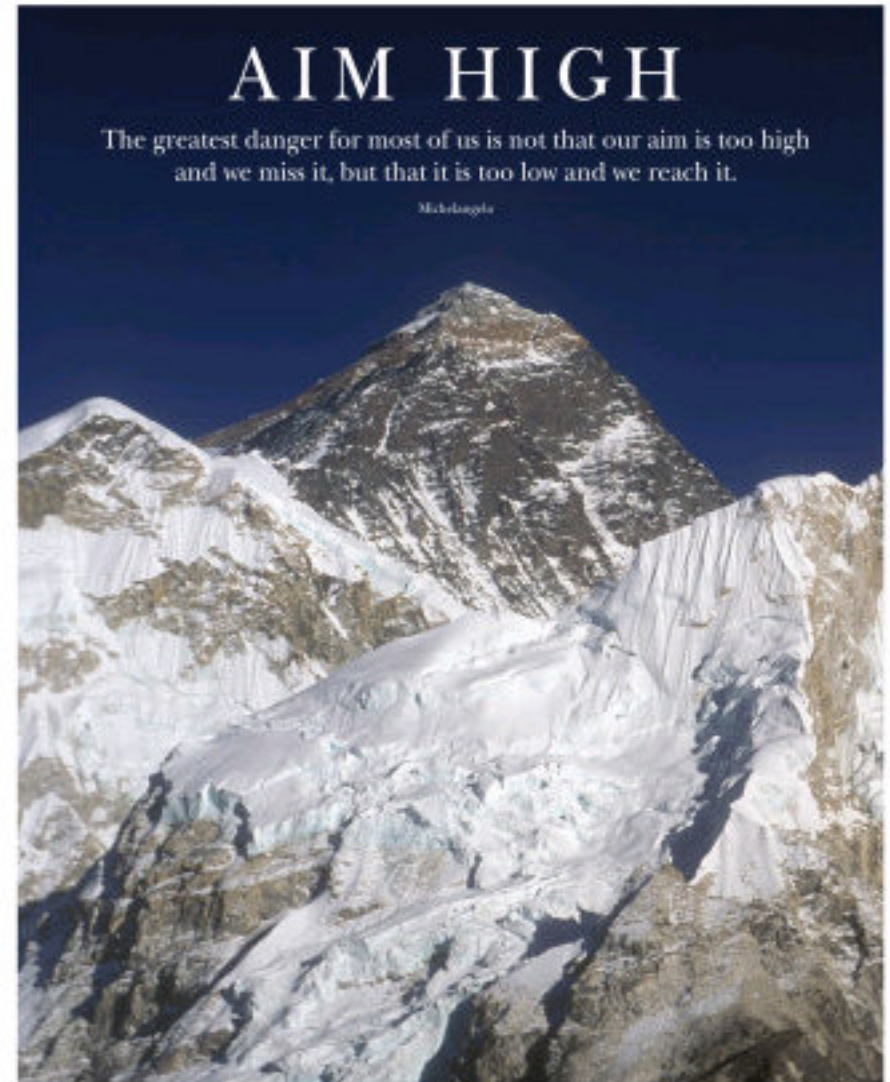
Internet: www.edancescience.org

Humanitarian Resource Institute

Internet: www.humanitarian.net

Global Arts Integration Into Education Initiative

Internet: www.unarts.org



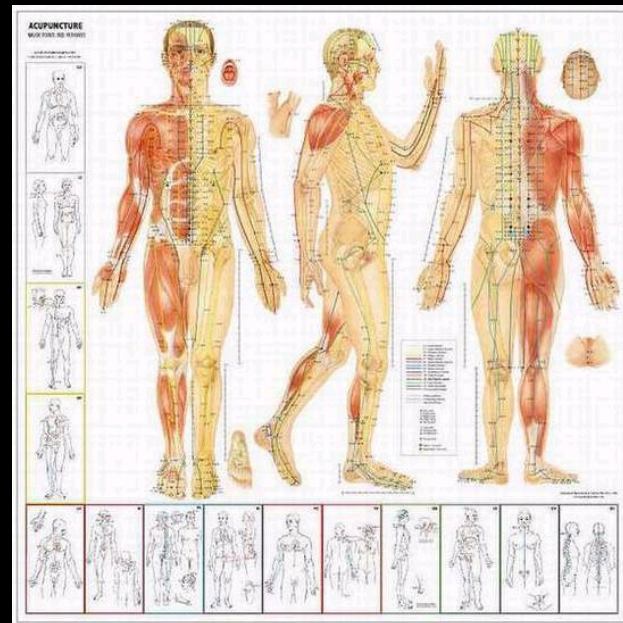
High School

- Academics secondary focus
- Sports: Wrestling, Track, Powerlifting
- Mind: Martial Arts, Eastern & Western Cultural Religion



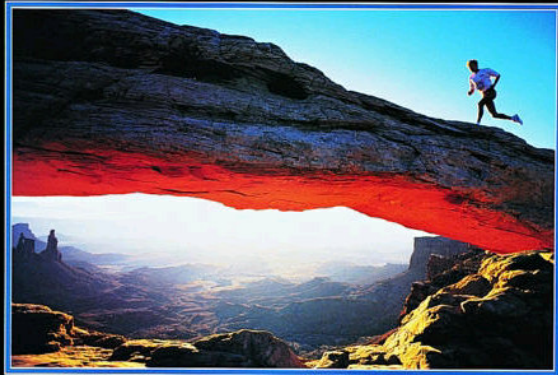
The Academic Road

- Focus on Medicine
- Exercise Physiology
- Coaching
- Pain Management



Strength to Endurance

- Graduate Studies in Chicago
- Ultra-distance Running and Cycling



CHALLENGE
"Heroes must have two things: definite goals and burning desire to achieve them."



PERSEVERANCE
"It is the enemy within that the first enemy is."

Setting Goals



Back to Connecticut

- Strength Training
- Shorter distance races: Pursuit cycling
- Qualifying times: Olympic Training Center, Colorado Springs.
- Started cross country skiing for cross training



Olympic Training Center

- Cycling Camp: 1985



Technical Training

- Lee Lund: Ex. Jaime Rogers



Jaime Rogers

Jaime worked as a young dancer, rising to level of First Dancer with the Julliard Dance Theater and notable Opera companies. He created a memorable performance in the movie "West Side Story."

A recipient of numerous awards and nominations, including Emmy Awards, Cleo Awards, Georgies, Tony Awards, and the Dance Alive Achievement Award. Jaime has been a force in the media of television, where he created for 40 different series, 1,500 episodes, and over 30 specials.

Classical Ballet

- Nutmeg Conservatory for the Arts



Biomechanical Analysis, Correction & Retraining



Regimen Changes Body

1990, Torrington Register Citizen

The type of training Apatow is providing will be "a major thing of the future," Dante says.

Youth Leadership & Development

- From Arts and Olympic development to youth programs.
- Washington: Liaison to U.S. Secretary of Health and Human Services. 1-800-Say-No-To-Drugs Campaign.

Welcome to the official web site of the
Cycle Across America
1990 National Substance Abuse Campaign



www.cycleacrossamerica.org

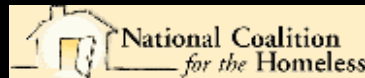
Youth Leadership & Development

- Pilot Project: NYSDSAS
- Private School: Cayuga County



Youth Leadership & Development

- U.S. House Select Committee: National Community Service Initiative.



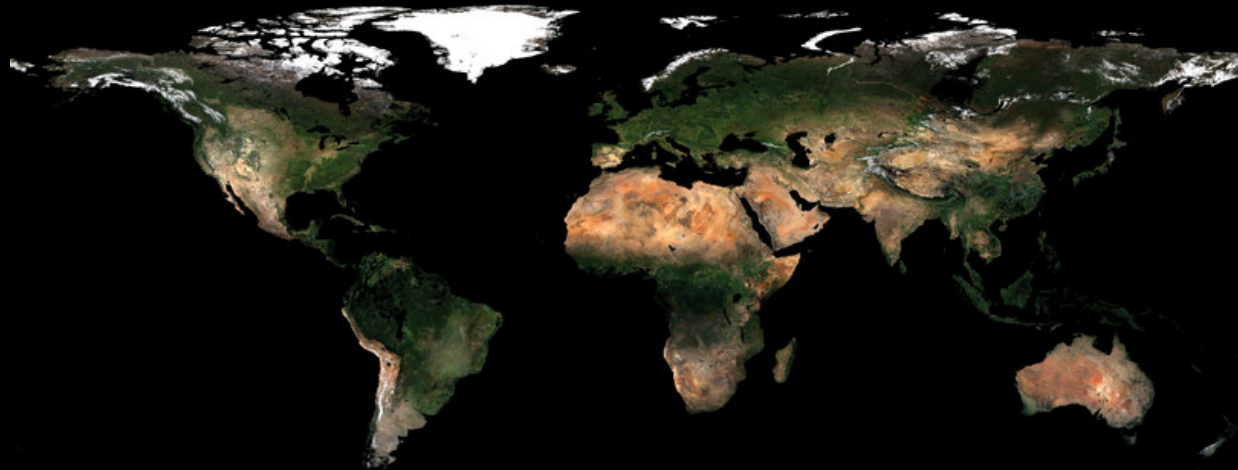
www.runacrossamerica.org

Youth Leadership & Development

- Cross section of Needs: Formation of the NGO Humanitarian Resource Institute in 1994.



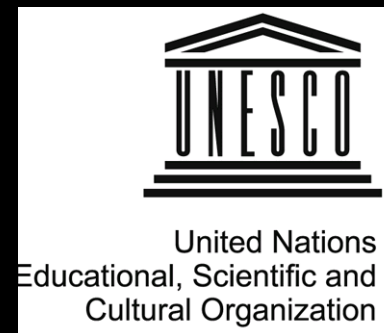
Humanitarian Resource Institute



www.humanitarian.net

Humanitarian Resource Institute

- Policy & Network Development
- FEMA: State Department IDIN Project
- Humanitarian University Consortium: Medicine, Veterinary Medicine & Law
- Oversight of policy in development in field, pursuit of USMLE, NAVLE, MBE.



National Academy of Sciences

- In the publication "**Biological Threats and Terrorism, Assessing the Science and Response Capabilities: Workshop Summary**," the National Academy of Sciences has recognized Humanitarian Resource Institute (HRI) as one of nine leading educational and research institutions. These include:
 - Center for Nonproliferation Studies.
 - Columbia University: Center for Public Health Preparedness.
 - Harvard University John F. Kennedy School of Government: Belfer Center for Science and International Affairs.
 - Humanitarian Resource Institute.
 - Johns Hopkins University: Center for Civilian Biodefense Studies.
 - Massachusetts Institute of Technology: Center for International Studies.
 - National Academy of Sciences.
 - University of Maryland: Center for International and Security Studies at Maryland.
 - University of Minnesota: Center for Infectious Disease Research and Policy.

Keynote Speaker: Consultancy

- Keynote Speaker: **The Future of Biodetection Systems** - Final Workshop Analysis: The Future of Biodetection Systems Workshop was held last year to bring together industry, academia, national labs, and federal agency personnel in an interactive process, to develop a roadmap for research and development investment in biodetection. Sponsored by Los Alamos National Laboratory, September 26 & 27 2006.
- Member of the scientific committee of the **World Health Organization Collaborating Centre for Tourist Health and Travel Medicine**, 2005: Fifth European Conference on Travel Medicine.
- **EHPNET: Humanitarian Resource Institute Emerging Infectious Disease Network:** Environmental Health Perspectives (EHP), an online publication by the Public Health Service, U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Environmental Health Sciences (NIEHS), Volume 112, Number 1, January 2004.
- **Keynote Speaker:** 8th annual meeting of the Association of Veterinary Biologics Companies (AVBC), 5 November 2003.
- **2002 Award for Excellence in Outbreak Reporting on the Internet:** International Society for Infectious Diseases, ProMED-mail.
- U.S. Representative for Agricultural Security: U.S. Medicine Institute for Health Studies Forum "Food, Air, Water, and Terrorism: Assessing the Risk," sponsored by the Department of Defense, Global Emerging Infections System and Annapolis Center. 29 January 2002. Paper: "**Agricultural Security and Emergency Preparedness: Protecting One of America's Infrastructures.**"

Sport Medicine & Science Institute

- Mid 1990's
- Classical Ballet & Dance Development
- Equestrian, professional football, national level wrestling, hockey cross-country and downhill skiing, skating and martial arts....
- Upon request, applications of the analysis correction and retraining procedures to enhance the joint flexibility and technical performance for classical ballet training have been applied to musculo-skeletal disorders that include **entrapment neuropathies, Scoliosis, Rheumatoid Arthritis, Asthma, Fibromyalgia, Frederick's Ataxia, Multiple Sclerosis**. One of our cases with Rheumatoid Arthritis was submitted to the National Arthritis Foundation Peer Review Board in 1990. Analysis and corrective procedures have been adapted to help spinal herniations for physicians at Yale Medical School.
- Small animal veterinary application of human biomechanics procedures leads to work with hundreds of horses in dressage, hunter-jumper and western training programs.

International Educational Initiative

- Distance Education Course: Classical Ballet Based Biomechanics & Orthopedics Analysis 101
- UNESCO: International initiative to integrate classical ballet based biomechanics into the standard of care for orthopedics specialization, 192 countries.
- Accentuated stretch and flexibility focus for all dance development programs.
- Expansion into Olympic development programs in all sports.

Dancescience: Biomechanics

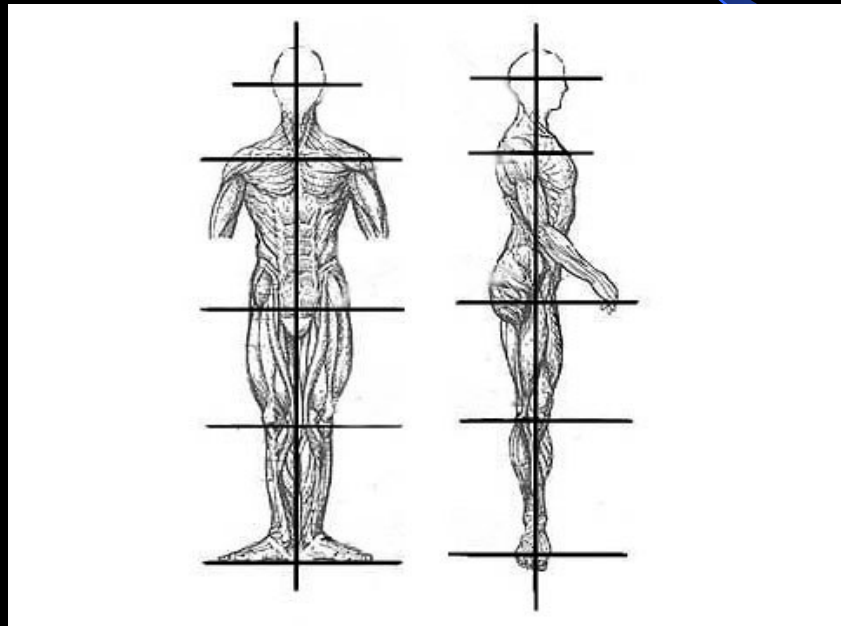
- Biomechanics can be defined as the study of biological systems (such as the spine and extremities) in terms of their physical properties, structure and function.
- Classical ballet training is the most advanced technical movement mechanics training in the world, providing a foundation for the development of joint strength, postural alignment and precision control of the human frame in space.

The Mechanical Ideal

Head & Neck
Alignment

Torso
Control

Knee
Alignment



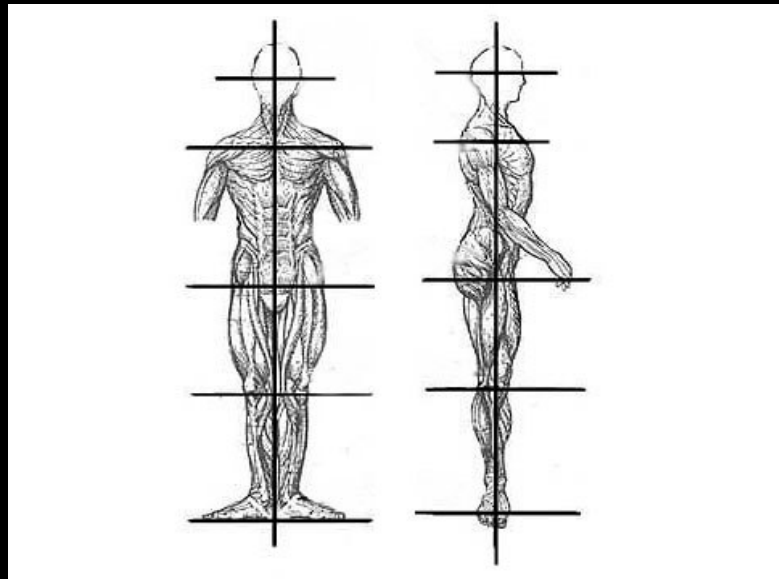
Shoulder
Alignment

Hip Flexibility

Ankle/Foot
Alignment

The Mechanical Ideal: Head & Neck

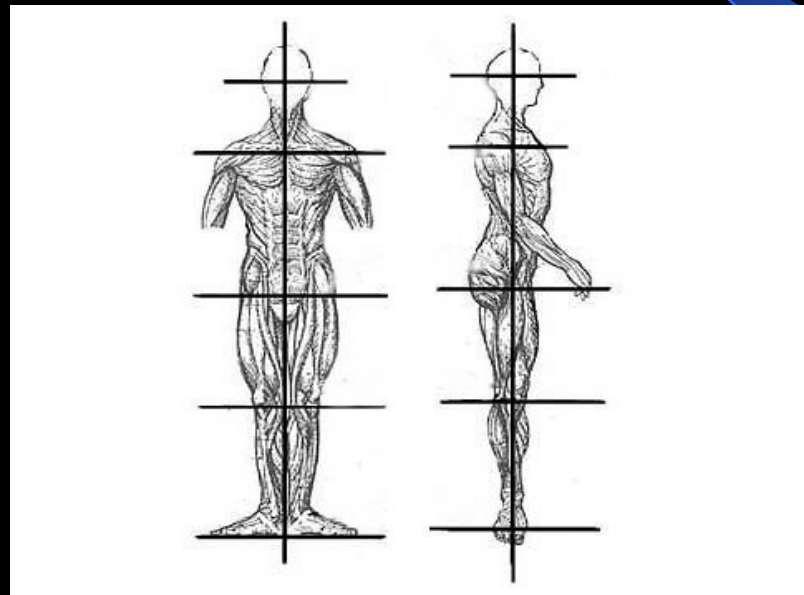
Head & Neck Alignment



The correct alignment of the head and neck is achieved when the base of the skull is aligned over the shoulder complex and muscles in the front of the neck (sternocleidomastoid) are contracted.

The Mechanical Ideal: Shoulder

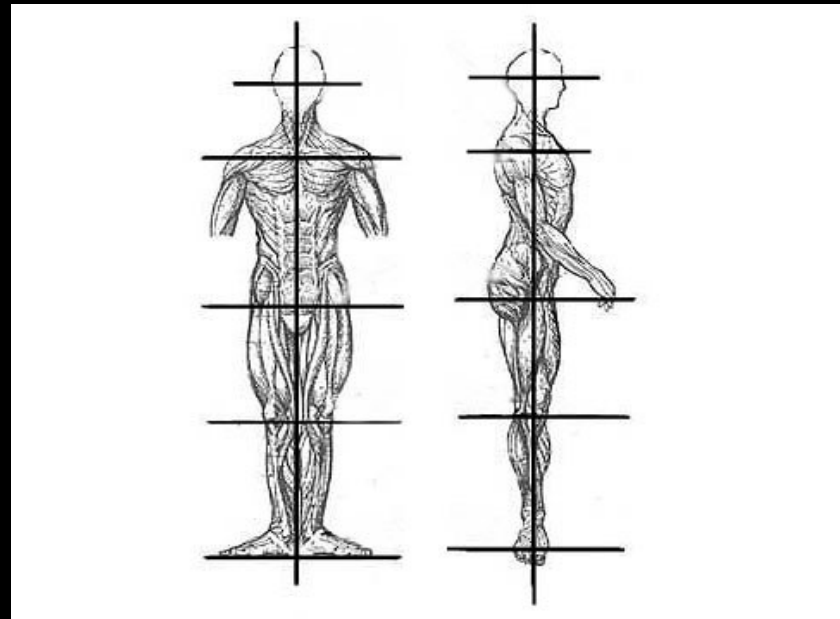
The shoulder complex is held back and down with concurrent contracture of the chest (pectoral) and upper back (latissimus) muscles.



Shoulder
Alignment

The Mechanical Ideal: Torso Control

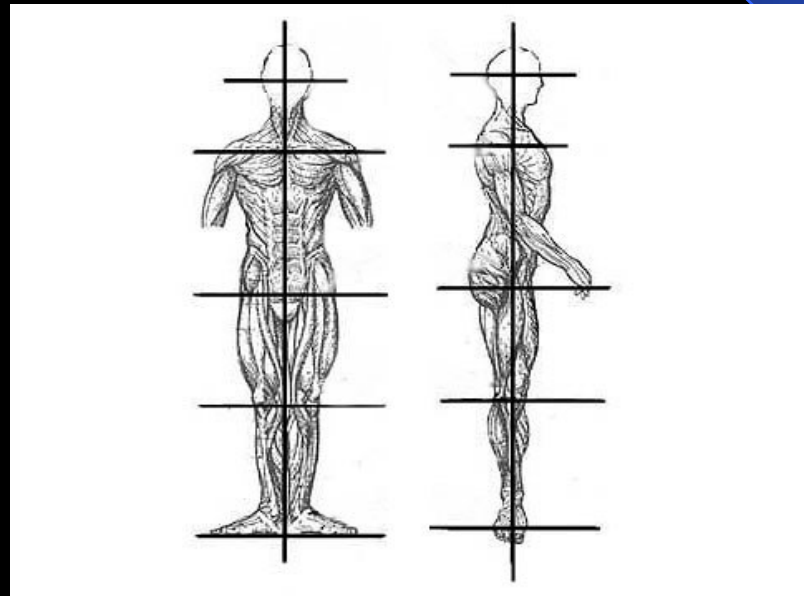
Torso
Control



The upper and lower
extremities are
connected by the
abdominal and
erector muscles of
the lower back.

The Mechanical Ideal: Hip Flexibility

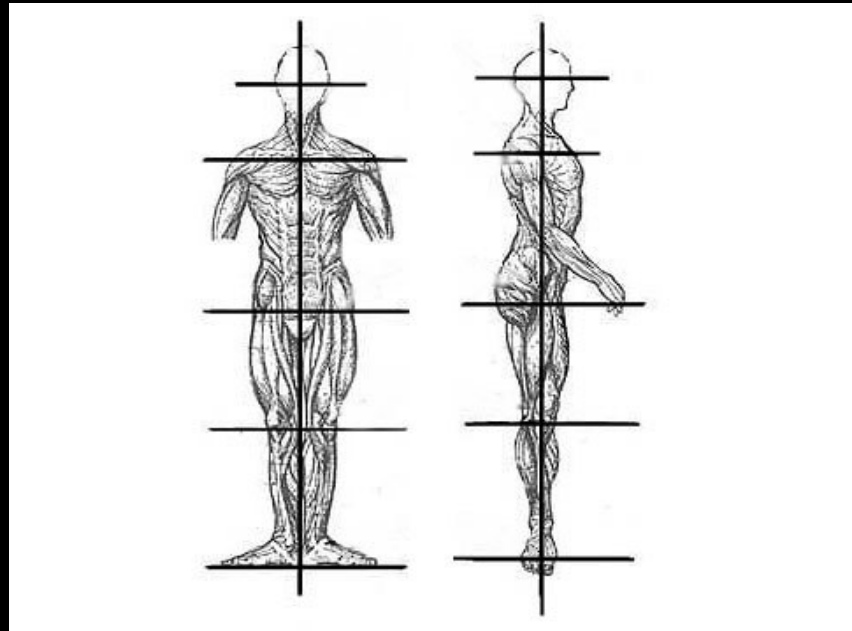
Hip flexibility and rotation is the determining factor for the correct alignment of the knee, ankle and foot.



Hip Flexibility

The Mechanical Ideal: Knee

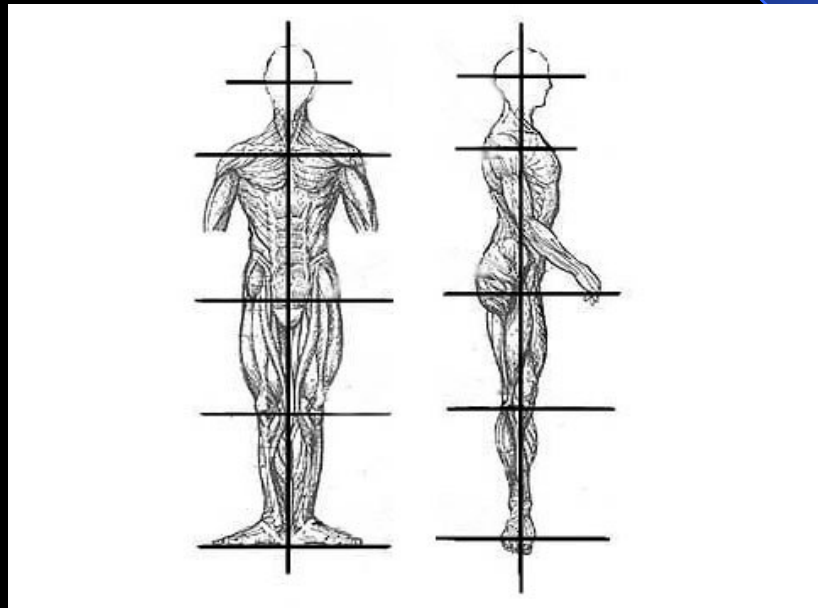
Knee
Alignment



As the legs are bent, the kneecaps should track directly over the ankle and center of the foot

The Mechanical Ideal: Ankle/Foot

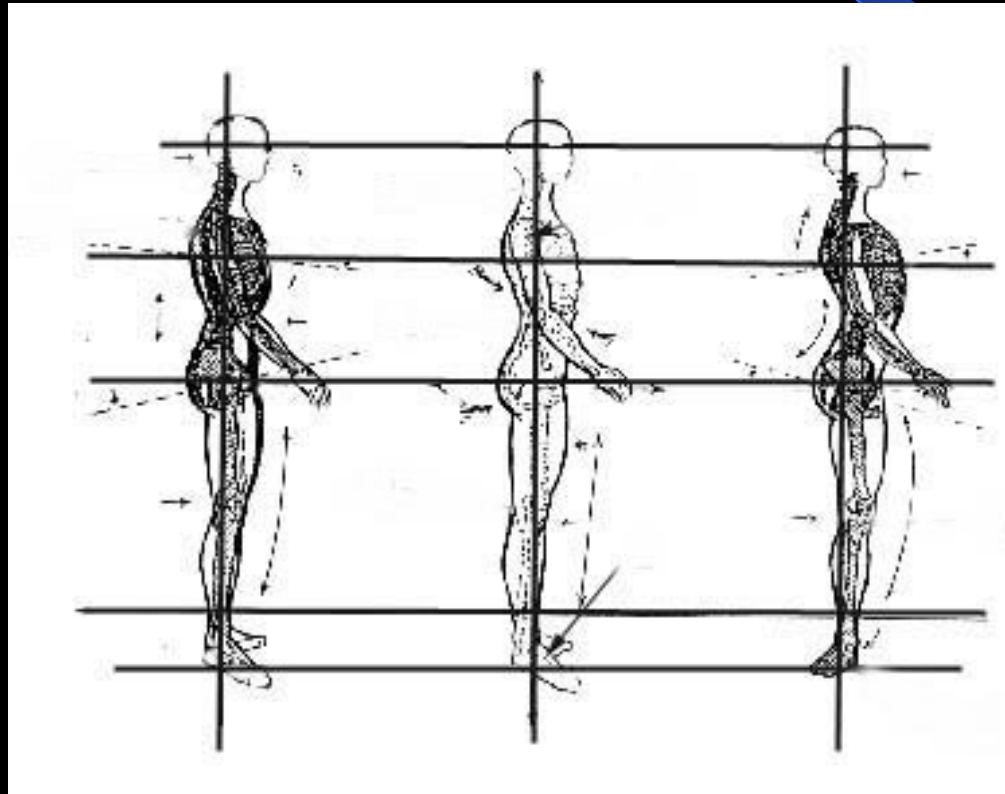
The weight must be placed over the center of the feet with the knee and ankle tracking over the line between the 1st & 2nd metatarsals.



Ankle/Foot
Alignment

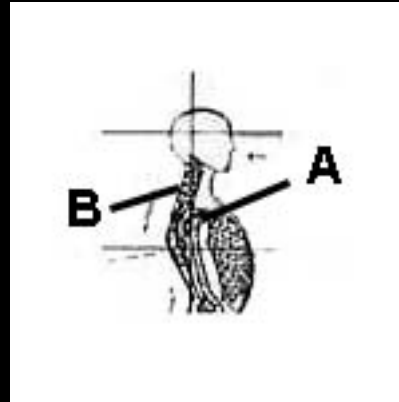
Postural Alignment & Joint Stress

Common Mechanisms of Injury



Postural Alignment & Joint Stress

Shoulder Stress & Misalignment

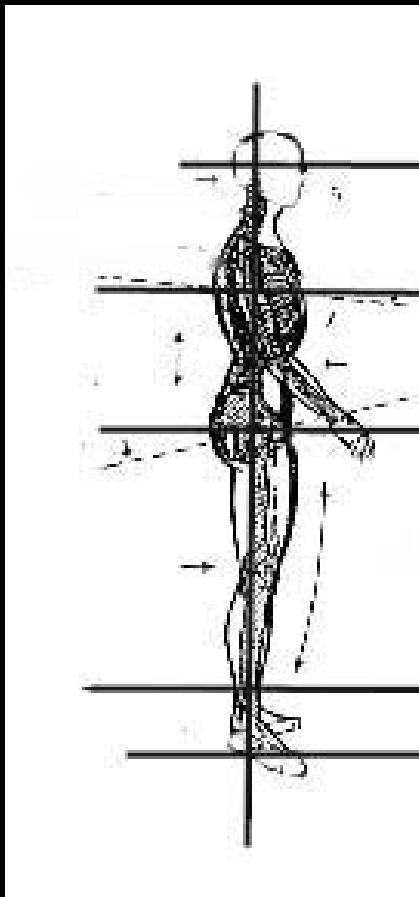


A. Anterior alignment of the humerus bone of the upper arm to the clavicular head decreases an athletes capacity to maintain correct alignment of the shoulder complex, neck and head

B. This forward alignment pattern of the shoulder complex pulls the cervical spine forward, causing an increased curve (hyperlordosis) in the neck bringing the head in front of the vertical axis of the body.

Postural Alignment & Joint Stress

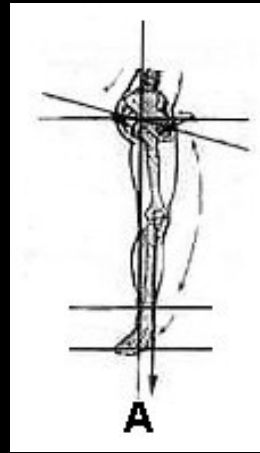
Potential Injuries



- The postural pattern of increased curvature of the neck and misalignment of the shoulder has been found to contribute to:
- Mechanism of shoulder injuries (long head of the biceps tendon/rotator cuff).
- Mechanisms of elbow, wrist and hand complex injuries.

Postural Alignment & Joint Stress

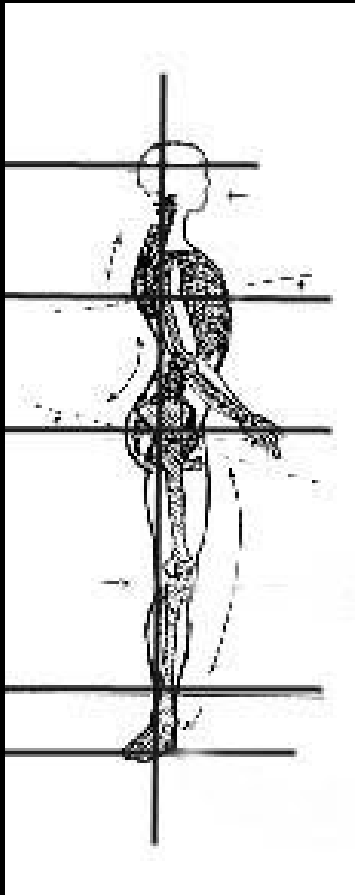
Lower Extremity Stress & Misalignment



- A. A plumb line dropped from the head of the knee cap (patella bone) should track over the centerline of the ankle and foot. When the line falls to the inside of the foot this pattern is referred to as internal rotation of the knee.

Postural Alignment & Joint Stress

Potential Injuries



- Internal rotation of the knee joint is a common mechanism of knee injury.

This contributes to:

- Stress in the ankle, knee, hip complex and spine.
- Pronation of the foot (fallen arches)
- First metatarsal-phalangeal joint inflammation (bunions).

The Pursuit of Excellence

Aspirations to achieve top level performance in any sport requires detailed attention given to each aspect of the training program. Every day, our diet, strength, speed, flexibility, postural alignment, mental preparation and sports specific training all relate to the factors upon which our bodies will adapt, to yield our potential performance in competitive event which can be decided by a 1/100 of a second. – *S.M.Apatow*



Questions & Answers

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