

Strategie di prevenzione e riabilitazione nello sport:
l'esperienza della nazionale italiana di pallavolo



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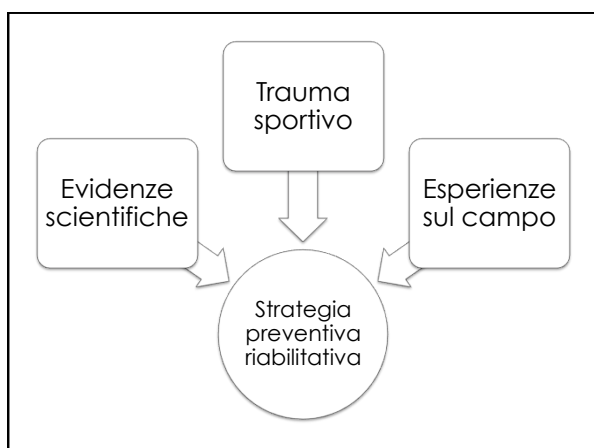


Ancona, 22/10/2016

Il contesto attuale

- Aumento degli infortuni
- Aumento degli impegni agonistici
- Incremento dell'impegno fisico
- Innalzamento del limite prestativo
- Prolungamento delle carriere sportive
- Nuove tecnologie
- Nuovi regolamenti





Traumatologia della pallavolo

La letteratura scientifica

- * Pochissimi studi sull'alto livello
- * Nessuno studio in relazione alle modificazioni del regolamento

Gestione integrata e prevenzione

- * **Conoscenza dell'injury profile della disciplina**
- * **Conoscenza della storia del giocatore e delle problematiche traumatologiche più recenti**
- * **Individuazione dei principali fattori di rischio generali ed individuali**
- * **Organizzazione delle strategie di prevenzione più adeguate in relazione al periodo, alla situazione, all'atleta**
- * **Valutazione e controllo dell'efficacia delle misure di prevenzione nei vari periodi**

Curr Sports Med Rep, 2012 Sep-Oct;11(5):251-6. doi: 10.1249/JSR.0b013e3182699037.

Volleyball injuries. Erkes K 1.

Author information

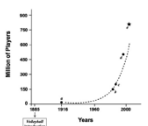
Abstract

There has been a significant increase in the numbers of people playing indoor and beach volleyball since the early 1980s and, consequently, an increase in injuries. Most injuries are related to repetitive jumping and hitting the ball overhead. The ankle is the most commonly injured joint, but the knee, shoulder, low back, and fingers also are vulnerable. The shoulder in particular is subject to extreme torque when hitting and jump serving the ball. Some injuries have a predilection for those playing on sand versus those playing in an indoor court. The clinician caring for volleyball players should be aware of the types of injuries these players sustain and how to help them return to play promptly and appropriately. This article reviews the specific injuries that are most common as a result of participating in the sport of volleyball.

Traumatologia della pallavolo

Infortuni più frequenti:

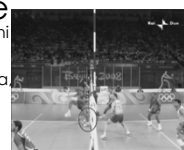
- * Distorsioni caviglia (Bahr, 1994 – Schafle 1993)
- * Traumi dita mani
- * Tendinopatia rotulea (Bisseling, 2007)
- * Tendiniti e traumatismi cronici spalla (Briner, 1999 – Reeser, 2010 – Vang 2001)
- * Neuropatia sovrascapolare (Dramis, 2005 – Witvrouw, 2000)
- * Lombalgia
- * Traumi muscolari (Watkins, 1992)



Volleyball player Injury profile

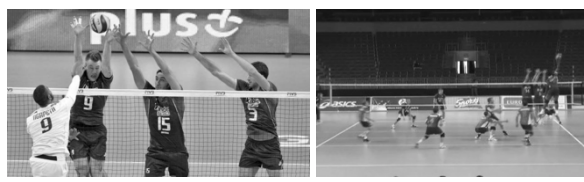
Traumi acuti: distorsione di caviglia, dita mani

Traumi cronici: sovraccarico funzionale spalla
schiena, ginocchio (jumper's knee
[spt.sovrarotuleo], condropatia)



Traumatologia della pallavolo

- Infortuni correlati alle azioni di muro e di schiacciata
- Maggiore incidenza di tendinopatia rotulea in giocatori con maggiore forza degli arti inferiori e maggiore capacità di salto; influenza della biomeccanica del gesto



Contents lists available at ScienceDirect

ELSEVIER

Physical Therapy in Sport

journal homepage: www.elsevier.com/ptsp

Original research

Lower extremity mechanics during landing after a volleyball block as a risk factor for anterior cruciate ligament injury

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SCANDINAVIAN JOURNAL OF

Training volume and body composition as risk factors for developing jumper's knee among young elite volleyball players

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week. We did not detect any significant differences between the groups in body composition at the time of inclusion or in the change of body composition during the study period. Conclusion, male gender, a high volume of volleyball training and match exposure were risk factors for developing jumper's knee.

Scand J Med Sci Sports 2015; 25: 308-314
doi: 10.1111/sms.12206

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SCANDINAVIAN JOURNAL OF
MEDICINE & SCIENCE
IN SPORTS

Previously identified patellar tendinopathy risk factors differ between elite and sub-elite volleyball players

I. Janssen^{1,2}, J. R. Steele¹, B. J. Munro¹, N. A. T. Brown¹

Therefore, high training volume is likely the primary contributor to the injury discrepancy between elite and sub-elite volleyball players. Interventions designed to reduce landing frequency and improve quadriceps extensibility are recommended to reduce patellar tendinopathy prevalence in volleyball players.

European Journal of Sport Science, 2013
 Vol. 13, No. 6, 732–743, http://dx.doi.org/10.1080/17461391.2013.773090

REVIEW ARTICLE

Overuse in volleyball training/practice: A review on shoulder and spine-related injuries

ELENA SEMINATI & ALBERTO ENRICO MINETTI
 Department of Pathophysiology and Transplantation, University of Milan, Milano, Italy

Abstract
 Overuse injuries are predominant in sports involving the repetition of similar movements patterns, such as in volleyball or beach volleyball, and they may represent as much a problem as do acute injuries. This review discusses the prevalence of two of the most common overuse-related injuries in volleyball: shoulder and back/spine injuries. Risk factors and the aetiology of these injuries are illustrated in order to make possible to initiate preventive programme or post-injuries solutions. Data collected from literature showed a moderately higher injury rate for overuse shoulder injuries compared to the back/spine (19.0 ± 11.2% and 16.8 ± 9.7%, respectively). These data could be underestimated, and future epidemiological studies should consider overuse injuries separately from the others, with new methodological approaches. In addition to age, biomechanical and anatomical features of a volleyball technique utilised in game and the amount of hours played are considered as the main risk factors for overuse upper limb injuries, both for professional and recreational athletes. Together with post-injuries solutions, great importance has to be placed on preventive programmes, such as preventive rehabilitation, stretching, adequate warm up, strength-power exercises, etc. Furthermore, it is particularly suggested that coaches and players work together in order to develop new game/training techniques that minimise stresses and range of motion of the principal anatomical structures involved, while maintaining athletes performance.

a RISK FACTORS		b SOLUTIONS	
Intrinsic		Preventive	
SHOULDER	BACK/TRUNK	SHOULDER	BACK/TRUNK
Anatomy & biomechanics		Diagnostic screening	
<ul style="list-style-type: none"> Mobility impairment Muscle imbalance/stability Muscle weakness SICK scapula & Scapular asymmetry 	<ul style="list-style-type: none"> Spinal dimension Posture Trunk weight asymmetry Centre of mass position 	<ul style="list-style-type: none"> Optimization of the spike technique Eccentric resistance training Core strengthening/stability training Preventing rehabilitation 	<ul style="list-style-type: none"> Developing trunk muscle motor control, kinesthetic awareness, endurance and coordination Developing adequate strength power Exercises to appropriate trunk stability and neutral spine alignment
History of shoulder pain		Physical Examination	
Gender	Age	Stretching/correct warm up before the game	
Hours of game/training played	Technique utilized	Post injuries	
Level, category and role of the player in the game		Rest Period	Rehabilitation Programs:
Extrinsic		Anti-inflammatory drugs	<ul style="list-style-type: none"> Following an appropriate kinetic chain (from proximal to distal) Muscle training (strength and control) Plyometric Exercises
Type of shoes	Environment	Surgery	
Competitive situation	Hardness of the playing surface		

Sports Med
 DOI 10.1080/10927029.014.0203-9

INJURY CLINIC

Injury Risk Management Plan for Volleyball Athletes

Lachlan P. James · Vincent G. Kelly · Emma M. Beckman
 Injury Risk Management Plan for Volleyball Athletes

Table 1 Modifiable and non-modifiable risk factors for the most common volleyball injuries

Risk factor	Modifiable	Non-modifiable
Ankle sprain	Sinking technique with excessive horizontal displacement [18]	Previous ankle injury [20]
	Fatly toe-press landing strategy [16]	Increased tibial rotation ROM [21]
	Lower weight-bearing ankle dorsiflexion ROM (over) [26]	Increased subtalar eversion ROM [22]
Patella tendinopathy	Large increases in training load [23]	Less acute posterior joint position sense in rotation [25]
	Lower flexibility in hamstrings [26]	Higher range of motion through extension at the knee
	Lower flexibility in quadriceps [26]	Rotator/scapulohumeral joint (overuse) [27]
	Less knee flexion upon vertical landings [24]	Playing history duration (exposure to repetitive low body ballistic efforts) and previous patella tendinopathy [21]
Shoulder overuse injuries	Fatly landing and take-off technique (short valgus collapse combined with excessive internal or external knee rotations, and insufficient knee flexion) [24]	Previous shoulder injury [2]
	Increased water to hip ratio [4, 33]	Age [40]
	Gender vertical jump performance [29]	Playing history [2]
ACL injury	Weak core stability [42]	Family history [46]
	Large increases in training load [2]	Previous ACL injury [29]
	Position [5]	
Overuse injuries/overuse	Regular season games [14]	
	ACL anterior cruciate ligament, ROM range of motion, SICK scapulae subluxation, inferior medial border prominence, coronoid pain and subluxation, and patella tendinopathy	

Injury Risk Management Plan for Volleyball Athletes

Table 2 Risk factors for volleyball athletes


Injury	High risk	Medium risk	Low risk
Ankle injury	Right, middle or left hitter with previous ankle injury employing ankle blocking or striking strategies	With or without: poor postural control, poor JPS, ROM indicators	Setter or libero with no history of ankle injury with unsafe blocking and striking tactics
	Patella tendinopathy	Middle, left- and right-side hitters with history of PT who display hazardous landing techniques	All remaining hitters
Shoulder overuse injury	Hitters with a previous shoulder overuse injury who possess mobility impairment, weakness through external rotation and SICK scapulae, regardless of serving style	Hitters with extensive playing history, who demonstrate mobility impairment, weakness through external rotation and SICK, regardless of serving style	Setter, libero with history of PT
	ACL injury	Any hitter demonstrating valgus collapse about an internally or externally rotated and excessively extended knee	All remaining hitters with a history of shoulder overuse injury
PT patella tendinopathy, JPS joint position sense, ACL anterior cruciate ligament, ROM range of motion, SICK scapulae malposition, inferior medial border prominence, coronoid pain and malposition, and scapular dyskinesis		Setter or libero with a previous history of shoulder overuse injuries	All remaining players
		A setter or libero demonstrating valgus collapse about an internally or externally rotated and excessively extended knee	Hitters without an extensive training history who express at least two of the following: mobility impairment, weak external to internal rotation ratio, SICK scapulae, reduced core stability
	A hitter with weak hamstring to quadriceps ratio or poorer physical fitness, and healthy landing mechanics	Hitters who are not predisposed and execute healthy jumping and landing strategies	Liberos and setters with optimal jumping, landing technique, with or without predisposition

Table 3 Injury prevention strategies for all players

Type of strategy	Injury	Activities
Example neuromuscular tasks	ACL injury	Single-leg squat
	Ankle sprain	Shuffles or Caricass—progress to change of direction reaction (mirror partner or coaches cue) Lateral or 45° bound and balance, landing on opposite leg Single-leg hops over line, or ladder drills Jump to 45° turn—progress to reaction ('jump left', 'jump right'), further progress to dual task (catch and pass, set, dig) Submaximal single-leg landing drills, depth jumps and variations Progressions to pivoting and cutting activities after capacity is developed
Motor learning and coaching strategies	ACL injury	Precise movement mechanics to ensure lower-limb joint congruency and encourage active, soft landings whilst maintaining the centre of mass over the base of support
	Patella tendinopathy	Close qualitative analysis to identify these movement dysfunctions Combined visual and verbal feedback Use of implicit learning strategies Cognitive teaching describing both the injury prevention and performance benefits of prescribed activities
Load management	Patella tendinopathy	Cautious introduction of tendon-loading activities during the pre-season or following a period of inactivity Structure high, medium and low tendon-loading days Tracking of 'ground contacts' during plyometric and ballistic activities in strength and conditioning sessions Application of valid periodization strategies to prevent fatigue-related injuries, particularly in pre-season and regular season
Rotator cuff strengthening	Shoulder overuse injury	External rotation and external rotation with scapular plane abduction exercises in functional, athletic positions (Fig. 1) Such exercises can also be conducted with eccentric emphasis. Here, the athlete externally rotates against light elastic tubing, steps away and along the line of action to create more tension while the free hand supports, then completes, the eccentric action These exercises can be performed between sets during resistance training

ACL, anterior cruciate ligament

Table 5 Tendon loading schedule for volleyball athletes

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday																
M	L	H	L	M	H	L																
low tendon load, M medium tendon load, H high tendon load																						
<p>Table 4 Additional injury prevention strategies for volleyball athletes according to specific risk factor profiles</p> <table border="1"> <thead> <tr> <th>Moderate to high-risk of ankle injury</th> <th>Moderate to high-risk for patella tendinopathy</th> <th>Moderate to high-risk for shoulder overuse injury</th> <th>Moderate to high-risk of ACL injury</th> </tr> </thead> <tbody> <tr> <td>Tracking of ground contacts during practice and games if feasible</td> <td>Tracking of frequency management of aggressive overhead actions</td> <td>Tracking and management of aggressive overhead actions</td> <td>Deceleration tasks such as depth drops and drop jumps</td> </tr> <tr> <td>Limiting the number of ground contacts during practice and these athletes with new conditioning sessions, particularly following games with high tendon loads</td> <td>May require closer monitoring and more frequent RCM throughout warm-ups, practice and games</td> <td>May require closer monitoring and more frequent RCM throughout warm-ups, practice and games</td> <td>Additional hamstring strengthening exercises during resistance training sessions</td> </tr> <tr> <td>Technical training to encourage a more vertical ingoing when spiking and blocking</td> <td>Technical training to encourage a more vertical ingoing when spiking and blocking</td> <td>Technical training to encourage a more vertical ingoing when spiking and blocking</td> <td>Higher volume of plyometric activities (for those at low risk of patella tendinopathy)</td> </tr> </tbody> </table>							Moderate to high-risk of ankle injury	Moderate to high-risk for patella tendinopathy	Moderate to high-risk for shoulder overuse injury	Moderate to high-risk of ACL injury	Tracking of ground contacts during practice and games if feasible	Tracking of frequency management of aggressive overhead actions	Tracking and management of aggressive overhead actions	Deceleration tasks such as depth drops and drop jumps	Limiting the number of ground contacts during practice and these athletes with new conditioning sessions, particularly following games with high tendon loads	May require closer monitoring and more frequent RCM throughout warm-ups, practice and games	May require closer monitoring and more frequent RCM throughout warm-ups, practice and games	Additional hamstring strengthening exercises during resistance training sessions	Technical training to encourage a more vertical ingoing when spiking and blocking	Technical training to encourage a more vertical ingoing when spiking and blocking	Technical training to encourage a more vertical ingoing when spiking and blocking	Higher volume of plyometric activities (for those at low risk of patella tendinopathy)
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<p>Fig. 1 Quick drop squat with external shoulder rotation</p> 																						

Modificazioni del regolamento

- * Rally point system, 1999
- * Introduzione del "libero" , 1998
- * Battuta sul net, 2000
- * Palla meno gonfia, 2000



Conseguenze tecnico-tattiche

- * Introduzione del "libero" – maggiore differenza e specializzazione nei ruoli
- * Battuta flottante
- * Battute più forti
- * Pipe
- * Maggiore velocità dell'alzata (gioco più "spinto" e più veloce)
- * Traslocazione dei centrali più veloce
- * Gioco più fisico e veloce
- * Scambi più lunghi
- * Gioco più continuo e più veloce (maggiore "densità" di gioco)




■ CONSEGUENZE METODOLOGICHE

- * Allenamenti meno lunghi e più intensi
- * Preparazione fisica modificata e diversificata


■ CONSEGUENZE TRAUMATOLOGICHE

- Aumento traumatismi acuti (caviglia – traumi muscolari: polpaccio/addominali)
- Diverso “injury profile” in relazione ai ruoli
- Aumento “shoulder pain” per l’azione di battuta



Benelli P. – Epidemiology and prevention of volleyball injuries – Journal of sports traumatology,2012

- * 4 anni (2008-2011) attività Nazionale Italiana Maschile vs. risultati letteratura internazionale vs. letteratura internazionale
- * Risultati sovrapponibili relativamente a tipologia e prevalenza di infortuni, tranne una maggiore incidenza degli infortuni muscolari nell’attività della Nazionale



Injury Report Form

M-10

Event: Place: Dates:

Team: Match: - Match #: Date:

Team Doctor: Mobile: E-mail:

NOTE: An injury is defined as any physical complaint sustained by a player during the match or during training prior to the match.

Any injury? NO YES If "YES", please complete information below

Player #	Function	Time of injury	Injury location	Type of injury	Cause of injury	Severity
Code		Date/Time	Description	Description	Description	Returned to game <input type="checkbox"/> Yes <input type="checkbox"/> No Absence (Code)

Definitions & Codes

Player function:
 S: Setter
 D: Diagonal
 O: Outside hitter
 C: Center player
 L: Libero

Injury location - injured body part:
 1: Head and trunk
 2: Face (incl. eye, ear, nose)
 3: Neck/cervical spine
 4: Thoracic spine/upper back
 5: Cervical spine
 6: Lumbar spine/lower back
 7: Abdomen
 8: Pelvis/sacrum/buttock

Upper extremity:
 11: Shoulder/elbow
 12: Upper arm
 13: Elbow
 14: Forearm
 15: Wrist
 16: Hand
 17: Finger
 18: Thumb

Lower extremity:
 21: Hip
 22: Groin
 23: Thigh
 24: Knee
 25: Lower leg
 26: Ankle
 27: Achilles tendon
 28: Heel
 29: Foot/Toe

Type of injury - diagnosis:
 1: concussion (regardless of loss of consciousness)
 2: fracture (traumatic)
 3: stress fracture (overuse)
 4: other bone injuries
 5: dislocation, subluxation
 6: tendon rupture
 7: ligamentous rupture with instability
 8: ligamentous injury without instability
 9: sprain (injury of joint or ligaments)
 10: lesion of meniscus or cartilage
 11: strain/muscle rupture/tear
 12: contusion/haematoma/bruise
 13: tendinopathy/tendinitis
 14: bursitis
 15: laceration/abrasion/skin lesion

16: dental injury/broken tooth
17: nerve injury/spinal cord injury
18: muscle cramp or spasm
19: Others

Cause of injury - diagnosis:
 1: overuse (gradual onset)
 2: overuse (sudden onset)
 3: non-contact trauma
 4: recurrence of previous trauma
 11: contact with another player
 12: contact moving object (ball)
 13: contact stagnant object (eg. net post)
 14: violation of rules (out play)
 21: fall of play conditions
 22: ball environmental conditions
 23: equipment failure
 24: Others

Severity - expected duration of absence from training or competition (in days):
 0: 0 days
 1: 1 day
 2: 2 days
 7: 1 week
 14: 2 weeks
 21: 3 weeks
 28: 4 weeks
 >30: more than 4 weeks
 >180: 6 months or more
 CE: career ending

Signature Team Doctor: _____

Nazionale Italiana Maschile

Organizzazione dei periodi di attività

- * Periodo dei raduni (post-campionato) – 3/5 mesi (per molti giocatori non ci sono pause significative dall’attività specifica) – Tendenza a concentrare in un’unica sede
- * Periodo competitivo (no turn-over, rose limitate di 14-16 giocatori, numerose trasferte anche in diversi continenti, tornei con partite ravvicinate, etc.)

Organizzazione dei periodi di attività

* Periodo di raduno post-campionato

* Periodo di competizione



Nazionale Italiana Maschile Volleyball – Stagione 2015

4 continenti
21 città
28 alberghi
110 ore di volo
60 ore di treno
30 ore di pullmann
36 partite
78 gg. allenamenti e raduni

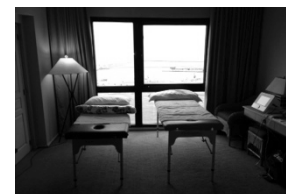
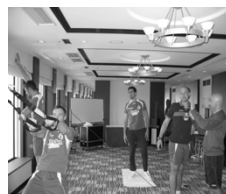


Settimane tipo

Lunedì	PESI PALLA
Martedì	TECNICA-DIFF PALLA
Mercoledì	PESI PALLA
Giovedì	TECNICA-DIFF PALLA
Venerdì	PESI PALLA
Sabato	RIPOSO RIPOSO
Domenica	RIPOSO RIPOSO

Lunedì	PESI PALLA
Martedì	TECNICA-DIFF PALLA
Mercoledì	PESI PALLA
Giovedì	RIPOSO PALLA
Venerdì	ALL PRE GARA PARTITA
Sabato	RIPOSO PESI+PALLA
Domenica	ALL PRE GARA PARTITA

Organizzazione delle attività in situazioni differenti (flessibilità / adattabilità!!)





Staff “solido”

- Coordinato
- Sinergico
- Dialettico
- Flessibile
- Autorevole
- Responsabile
- Competente
- Aggiornato
- Innovativo

La costruzione dello staff

- Composizione
- Interazione
- Consolidamento
- Modificazioni
- Metodo di lavoro

Gestione integrata Composizione

- Allenatori / Tecnici
- Team-manager
- Preparatore fisico
- Medico
- Fisioterapista
- Osteopata
- Statistici / Tattici
- Psicologo



Staff



La gestione dell'atleta, la pianificazione dell'allenamento e la programmazione delle attività di prevenzione e riabilitazione, necessitano non solamente di operatori competenti e capaci ma anche di staff coordinati, solidi e sinergici.

Questo può essere quel “valore aggiunto” per la realizzazione del miglior risultato sportivo.

Quale è lo staff migliore?

La costruzione dello staff

- Individuazione del referente principale (parla una sola persona!)
- Coordinazione dei percorsi (per esempio: terapie, riabilitazione, etc)
- No errori, no conflitti, no esitazioni, no confusione
- Costruzione di un team vincente (coordinazione e comunicazione!)

Servono tre cose per la leadership: avere il controllo della situazione, sapere amministrare i cambiamenti, e osservare. (A.Ferguson)

I ruoli, le competenze, le relazioni

- Quali sono i compiti, i ruoli, i confini?
- Come gestire le relazioni con gli atleti?
- Come interagire in maniera produttiva?
- Quali sono le gerarchie?
- Quali sono le priorità?



Problematiche dello staff sportivo



- Luoghi comuni
- Mode
- Troppi punti di riferimento
- Difficoltà nelle relazioni esterne (stampa, media, social network, etc.)

E' anche vero che il mondo dello sport è mediocre, ci sono troppi luoghi comuni. Spesso si dice: "in modo scientifico" quando dovrebbe solo dire "bene" (J.Velasco)

Approccio integrato

- Metodologie di lavoro
- Figure professionali
- Tipologie di terapie e trattamenti
- Attività ed interventi
- Esperienze

Percorsi di terapia e riabilitazione

- Trattamenti manuali
- Fisioterapia strumentale
- Terapie mediche
- Attività a secco
- Attività in acqua

Integrazione degli interventi

NO

- Conflittualità
- Interferenze
- Sovraccarico

SI

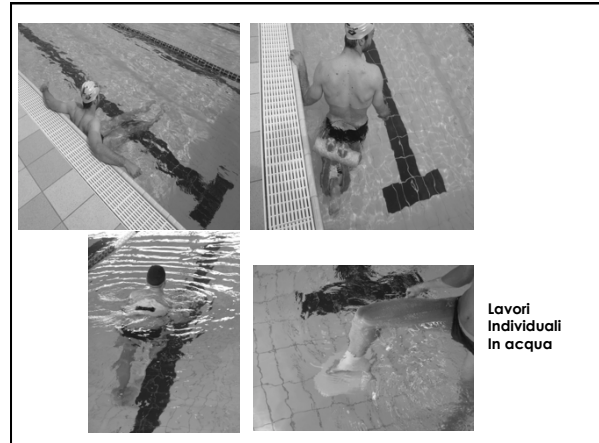
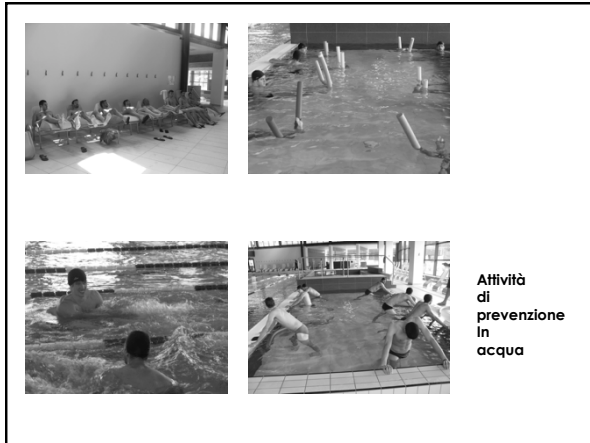
- Coordinazione
- Integrazione
- Sinergie
- Corretta modulazione del carico
- Sequenzialità

Cosa facciamo per la prevenzione?


- * Programmazione generale (attenzione alla prevenzione e alla rigenerazione)
- * Programmazione individuale (attenzione alle problematiche specifiche)

Cosa facciamo per la prevenzione?

- Attenzione al riscaldamento iniziale, con diverse tipologie di proposte, e all'allungamento finale
- Organizzazione di sedute di prevenzione specifiche (a secco e in acqua)
- Organizzazione di attività di prevenzione generale e individuale (esercizi pre- e post- allenamento tecnico, routine per distretti anatomici)
- Utilizzo di attrezzature e macchinari specifici per la valutazione e il controllo dell'allenamento



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Effect of aquatic training with and without weight on selected physiological variables among volleyball players

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Abstract
 The purpose of this study is to enhance sports performance. The objective is to analyze the effect of aquatic training with and without weight on selected physiological variables among volleyball players. To achieve this 50 physically active and professional undergraduate engineering volleyball players are selected as subjects and their age ranged between 18 and 20 years. The subjects are categorized into three groups randomly viz. Control group (CG), Aquatic training with weight group (ATWG), Aquatic training without weight group (ATWOG) and each group comprises of 50 subjects. Control group was not exposed to any training. Both experimental groups underwent their respective experimental treatment for 12 weeks, 3 days per week and a session on each day. Breath holding time, resting pulse rate were taken as variables for this study. The collected data was analyzed using analysis of covariance (ANCOVA) and Scheffe's post hoc test. The result reveals significant differences in all the selected physiological variables among ATWG and ATWOG pointing towards the use of aquatic training for performance improvement.

Maximum and Resting Heart Rate in Treadmill and Deep-Water Running in Male International Volleyball Players

Antonio Cuesta-Vargas, Jeronimo Carmelo Garcia-Romero, and Rajia Kulisma

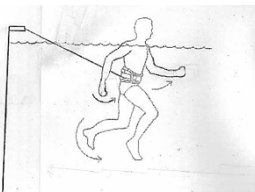


Figure 1 — Symbolized drawing of deep-water running.



Berger – Immediate effects of physiotherapy session of lower limb by balneotherapy on postural control – Ann Readapt Med Phys 2006

* Esercitazioni dei muscoli degli arti inferiori in acqua rinforzano gli stimoli propriocettivi, producendo un miglior controllo posturale



Riscaldamento individualizzato



Esercitazioni di gruppo per la prevenzione



Lavori di prevenzione Individuale e di gruppo



Lavori individuali di prevenzione


Prevenzione arto superiore

Prevenzione arto inferiore

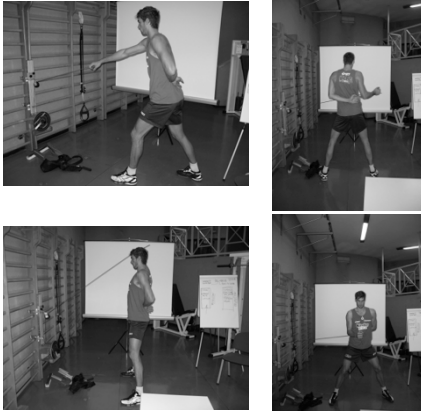
Journal of Strength and Conditioning Research, 2007, 21(3), 466-469
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EFFECT OF SIX WEEKS OF DURA DISC AND MINI-TRAMPOLINE BALANCE TRAINING ON POSTURAL SWAY IN ATHLETES WITH FUNCTIONAL ANKLE INSTABILITY

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¹School of Exercise and Nutrition Sciences, Deakin University, Australia; ²Centre for Ageing, Rehabilitation, Exercise and Sport, Victoria University, Australia.



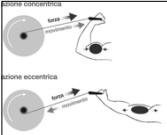
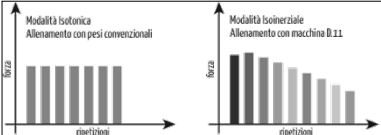
Utilizzo di strumenti per la valutazione ed il controllo
Esercitazioni con la macchina isoinerziale - arti inferiori



Esercitazioni con la macchina isoinerziale - Arto superiore

Allenamento Isoinerziale

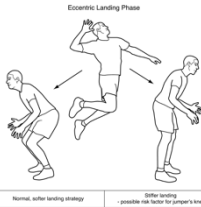

- il lavoro isoinerziale mirato al rafforzamento muscolare degli ischio crurali ha un effetto preventivo nelle lesioni muscolari di calciatori professionisti , e non solo, ha la prerogativa di migliorare la forza muscolature della catena estensoria. Ashling e coll. 2005)
- il lavoro isoinerziale svolto con 3 sedute di forza per 3 settimane, ha effetti sulla sezione del muscolo e sulla architettura muscolare, a differenza di altre metodiche che, a parità di risultati, richiedono più sedute di allenamento. Narici, Seynnes e al.)

SPORT-SPECIFIC ILLNESS AND INJURY

Jumper's Knee in Volleyball Athletes: Advancements in Diagnosis and Treatment

Garrett S. Hyman

REVIEW

The evolution of eccentric training as treatment for patellar tendinopathy (jumper's knee): a critical review of exercise programmes

Håvard Visnes, Roald Bahr

Br J Sports Med 2007;41:217-223. doi: 10.1136/bjsm.2006.032417

What is already known on this topic

- Eccentric training has become a popular conservative treatment model for patellar tendinopathy.

What this study adds

- Even if most studies suggest that eccentric training may have a positive effect, our ability to specify which protocol component is responsible for the observed effects is limited.
- The studies available indicate that the treatment programme should include a decline board, should be performed with some level of discomfort, and that athletes should be removed from sports activity.

Quali interventi? Su cosa lavorare?

- Modelli di intervento condivisi
- Condivisione delle informazioni
- Definizione del ruolo e dei compiti dei componenti del team
- Cooperazione tra figure professionali di diverse discipline e competenze
- Coordinazione nell'impostazione dei programmi e dei progetti
- Sviluppo e motivazione del team

Conclusioni - 1

- * Conoscenza completa ed aggiornata dell'epidemiologia specifica
- * Studio adeguato del gesto tecnico e del modello prestativo (ruolo, caratteristiche antropometriche e fisiche) e delle caratteristiche degli atleti
- * Capacità di adattamento alle modificazioni del gioco, dei regolamenti, dei materiali
- * Programmazione attenta della stagione e delle strategie di recupero e modulazione continua dei carichi di lavoro
- * Continuo confronto tra staff tecnico e staff sanitario
- * Costruzione di percorsi adattabili e flessibili
- * Valutazioni basate su criteri condivisi e consolidati
- * Attenzione alle nuove metodologie e tecnologie
- * **Creazione di un sistema di prevenzione e gestione dei traumi che sia solido (basato sulle evidenze e sulle esperienze), adattabile, flessibile, condiviso**

Conclusioni

- Non esiste un solo modello, o un solo sistema vincente
- Esistono diversi modelli, o sistemi, a seconda delle situazioni, del contesto, delle esigenze
- I modelli devono essere flessibili e adattabili
- Si può realizzare un'integrazione efficace tra diversi modelli e diversi approcci
- Per il successo finale, c'è sempre una percentuale legata al caso

