FIS Youth Seminar

Dublin (IRE)
28th – 30th October 2005
Jury's Hotel

INTERNATIONAL SKI FEDERATION
Aid & Promotion Programme

Sport2005
International Year of Sport and Physical Education
www.un.org/sport2005

FIS Youth Seminar

Programme

Friday , 28th October 2005

Arrival of participants. Members of the Ski Association of Ireland will meet the participants at the airport.

19.30	Welcome Cocktail offered by the Irish Tourist Board	

Saturday, 29th October 2005

Please note, the seminar will be conducted in English only.

09.00	Welcome	Paul Michaelides, Chairman Working Group Aid & Promotion
09.10	Medical questions 1) Injury prophylaxis for young athletes in ski racing 2) The knee joint of young athletes in ski racing 3) The spinal column of young athletes - damages and prophylaxis	Dr. Hubert Hörterer/ Dr. Hans Spring
12.00	Latest news about Doping	Sarah Lewis
12.30	Lunch	
14.30	Kids Village / Snow League - Swiss Ski School model	Vali Gadient
15.30	Experiences from a World Cup Athlete (What did they do with me?)	Didier Plaschy
16.30	Summary/conclusion	Harald Schönhaar
17.30	Departure bus to the dry ski slope	
18.00	Presentation of the improvements of the slope	Irish Ski Ass.
18.30	Visit of the slope and see skiers of various standards	Irish Ski Ass.
19.15	Departure Bus to Restaurant for dinner	
19.45	Dinner	

Sunday, 30th October 2005

09.00	Tour of Dublin Departures	

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Injury prophylaxis for young athletes in ski racing

H. Hörterer

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Do not mistake young athlets for simply small adults.

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Our children and youngsters are extremely overweighted.

- Nutrition and movemet deficiencies

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The health benefits of alpine skiing distinctly outweigh its risks arising from injuries.

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It is essential to also consider the musculoskeleten system is especially in alpine ski racing.

Growing seam

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The growing seams' load capacity decreases significantly with the youngster's entry to puberty.

Musculature

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- The development and growth of the muscles trail far behind that of the skeleton system.
- Consequently, substantial disproportions ensue.
- The muscles almost completely fail to take their natural effect of injury protection.

Cartilage

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When finding itself exposed to increased strain, the cartilage functionally adapts itself by enlarging its diameter. The permanent overburden of the cartilages will be followed by negative consequences.

Bone

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- The still immature bone of a child is much more flexible than that of an adult, while its compression-tension endurance limit is lower.

- Under load, juvenile bones tend to fracture more easily than that of adults.

Sinews and ligaments

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The starting point of the sinews and ligaments in the bone are most critical.

Thermoregulation

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in colder surroundings, the relatively large body surface (BMI) gives way to a considerable loss of heat.

Ski-Injuries

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30% of all skiing accident affect children and youngsters.

70% as relative to the overall number of skiers.

Most common ski-injuries

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- Isolated tibial fracture
- The number of forearm and upper arm fractures as well as head injuries rises slightly.
- The number of damages of the capsular ligament of the knee joint increases.

Mechanism of accident

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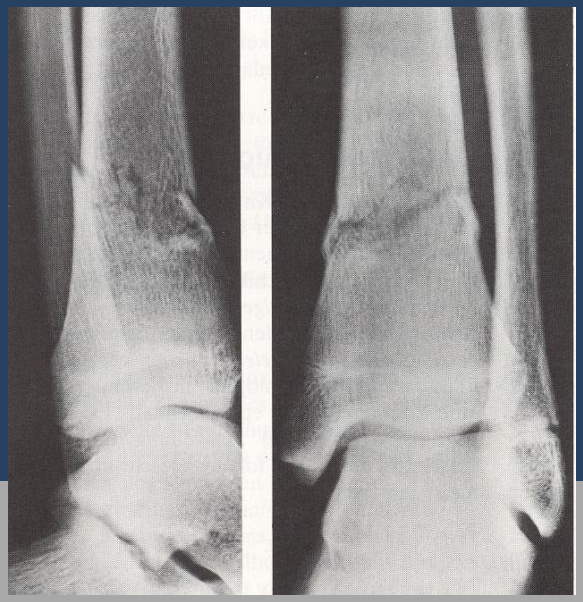
- Twisting of the leg out over the outer edge of the ski
- footborder-fracture



Overuse injuries

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Direct force or chronic overuse may give rise to the surpass of the individual performance limit of the tissue.

Causes
of overuse injuries

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- Increased strains during puberty
- Loading subject to disadvantageous outer conditions

- Materials - piste – etc. -

- Technically wrong movements
- Excessive recurrent strains

Avoidance of injuries

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Skiing technique

- Strong backward lean including a 90 degree angle of the knee joint is to be avoided.
  - ➔Loss of control
  - ➔Injuries of the knee joint derived from flexion-valgus lateral rotations
- Jump training in steep terrain

Physical preparatory exercises

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- Muscular building

Increased demands as to leg and trunk musculature in particular

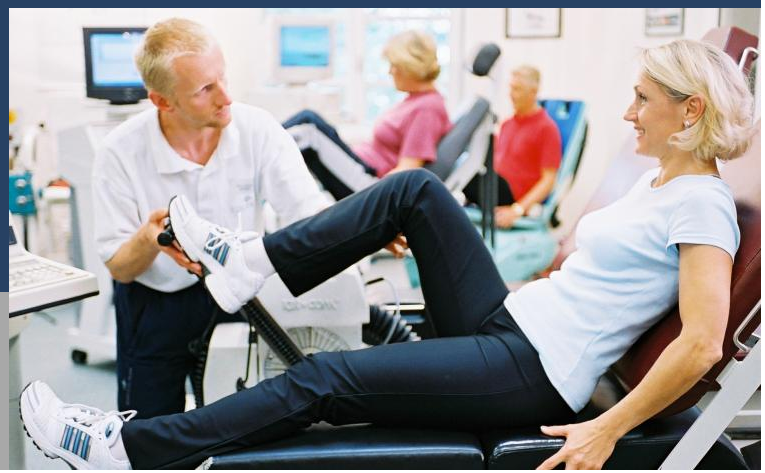
- Coordination

A neutral body centre is required due to the shorter skis.

Even slight changes of the position of the body may give rise to skiing mistakes.

- Active fall training

e. g. judo



Mental preparatory exercises

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teach:

- To fight fear of jumping
- To ban fear of speed
- To eliminate fear to fail

Step-by-step approach

Guidance-motivation-but no compulsion

Material-plate

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"The propability of shearing not only but largely depends on the standing height, because the larger the standing height the smaller the contact angle that is enough to make the ski start shearing.“

(Niessen/Müller 1999)

Material-ski

"The intensity of shearing (lateral deviation of the ski from the intended course per unit of time) in turn depends on the radius of constriction.“

Material-binding

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The binding must be set to suit the needs of the juvenile body!

Thus preferably a tiny bit more loosened than to tight

-Cruciate ligament

-lower leg

Material-helmet-protectors

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- Compulsory use of helmets for all events
- Special protectors and impact fenders for the young ski racers not simply the smaller version of the adult design

Piste - weather conditions

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- Deliberate exercises on artificial snow
- Apply reasonable care in case of low visibility
- Routing

Big bump – flat landing

Curve radius

When turning a curve with a speed of about 100km/h (male downhill race), the internal body angle might sum up to 75 degrees.

With a curve radius of less than 21m, the load of 4g can no longer be maintained.

Safety on the race course

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the slope

Interruption of the current race

Evacuation of injured athlet

Rules

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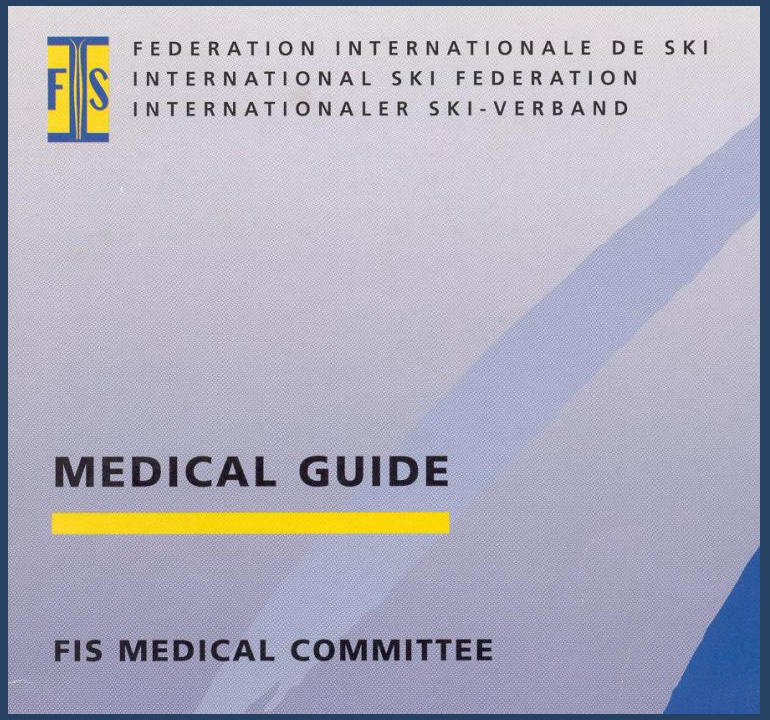
Medical guide

FIS medical commission



Overuse

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- Realisation of physiological fatigue
- Extensive regeneration in between
- Rehabilitation for complete healing up of overusage and injuries

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Alpine ski racing for children and youngsters

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YES,

if the distinctive features of the young ski racers are taken notice of.

No risk – no fun

More fun - more risk!

Thank you!

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The knee joint of young athletes in ski racing

H. Hörterer

The knee joint's anatomy

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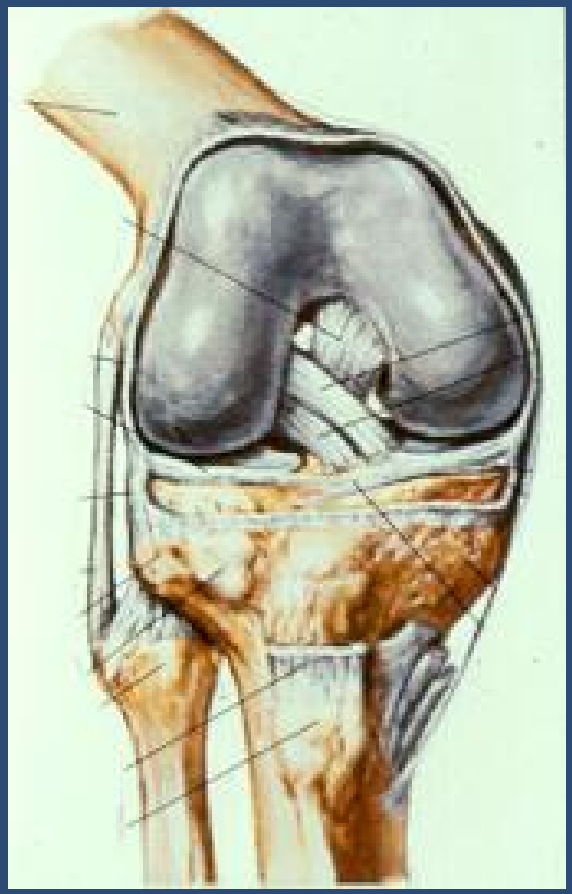
- Bone
- Growing seams
- Musculature
- Cartilage
- Ligaments
- Meniscus



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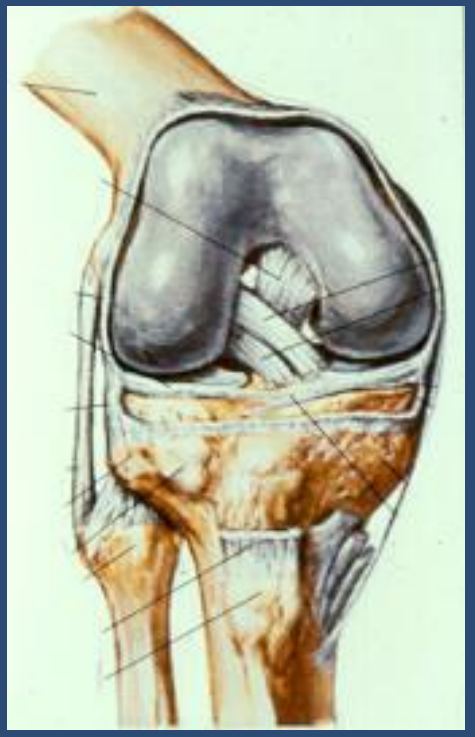
As the knee joint lacks a bony guide, the capsular ligament apparatus, the menisci and the muscular sinew groups serve to bring about stability.

The more the knee joint is bent, the more relaxed the passive ligament guide gets and the more frequent the rotation movements occur.



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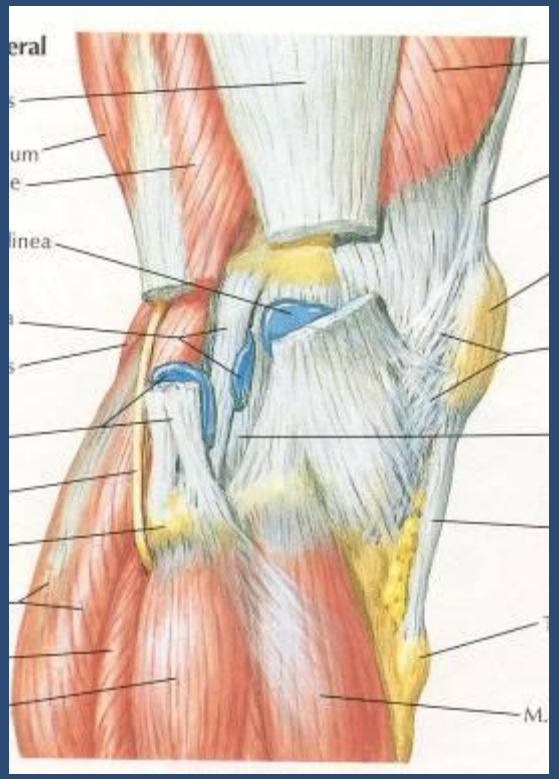
The knee joint's flexor and extensor cushion off most of the load.

Please take into account the still immature and thus weaker musculature of young ski racers.



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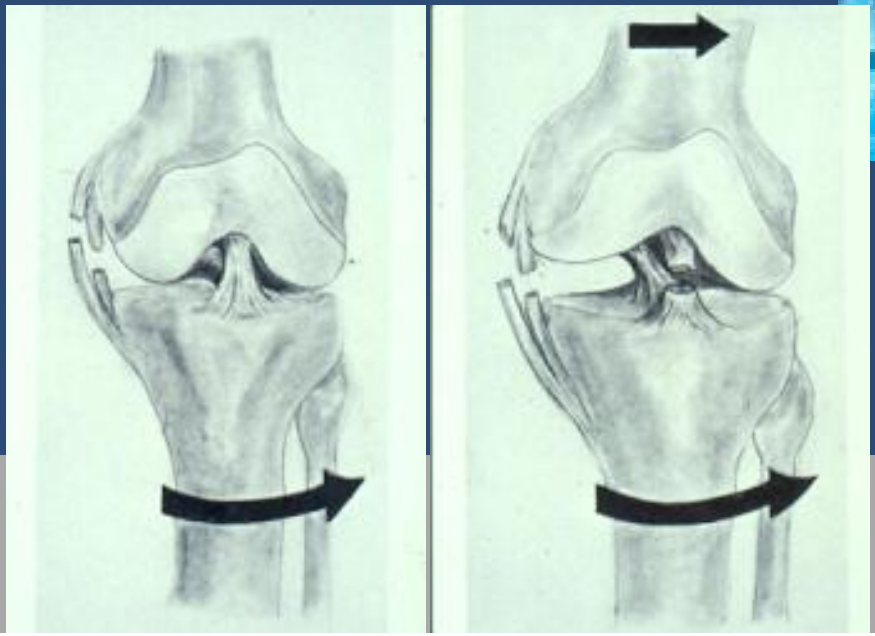
A flexion-valgus lateral rotation position puts the greatest risk to the knee joint.



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Also hyperdistension and superflexion might result in lingament injuries and/or fractures of bone/cartilage.

Bone bruise

Overuse

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When the knee is flexed, the back of the knee cap must tolerate substantial pressure values.

Particularly when the piste is icy, three to four times the pressure values may occur.

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Due to the tilt of the ski boot's leg, standing and walking in the boots can cause overuse, too.

Risk of injury

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- The risk for children to be injured when doing alpine skiing is significantly lower than that of adult skiers.
- For the 10 to 14 years age group the risk factor is approx. 50% less the overall skiers' average.
- There is no difference between girls and boys.
- You encounter a higher risk of injury when playing football, handball, basketball or volleyball

Risk of injury

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Over the past 25 years the risk of injury experienced a decline of approx. 37%.

Injuries in general

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Making up for approx. 50%, the fractures take the lead.

Ligament ruptures are rather scarce.

Overuse injuries of the knee joint

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- Badly developed muscular apparatus
- Lacking technical skills (backward lean)
- Icy pistes
- Wrong training

  Frequency – intensity – heavy exercises (leg curl)
- Ski boots

Knee injury prophylaxis

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- Well developed muscles (particularly the flexors)
- Skiing technique
- Taking notice of signs of fatigue
- No heightening of the plates (shearing)
- Routing – piste (big bump – flat landing)
- Weather conditions (low visibility etc.)
- Route fencing

Knee damage prophylaxis

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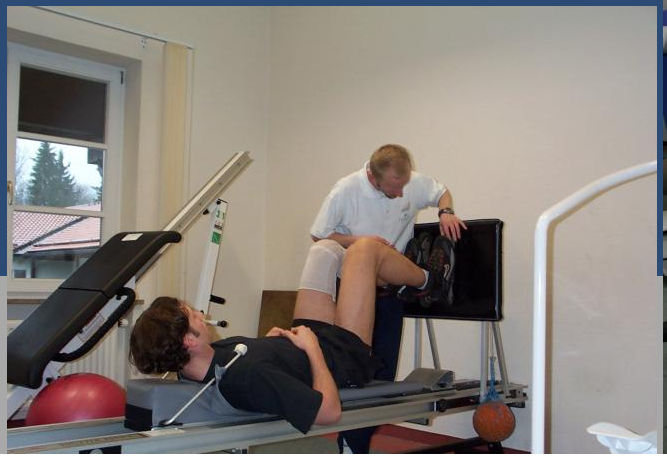
- Correct training of the musculature
  (leg curl – isokinetics)
- Technical know-how
  (only slight backward lean tendency)
- Ski boots
  (standing and walking mechanism)
- Rehabilitation-regeneration



Take home message

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- The risk for children to be injured when doing alpine skiing is significantly lower than that of adult skiers.
- There is no difference between girls and boys.
- Fractures occur more frequently – ligament rupture are rather seldom.
- Threat to the knee joint - in flexion-valgus lateral rotation
  - hyperdistention
  - and big bump/ flat landing
- Knee injury/ damage prophylaxis derived from:

  Musculature – skiing technique – material- routing/ route fencing – observance of signs of fatigue

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- In order to prevent children from suffering from the so called civilisation diseases, their natural urge to move is to be backed by skiing.
- The critical views on competitive skiing for children are frequently unjustified. For the later yield of record performances the early start of a sporting career is inevitable.
- For young ski racers the execution of periodic sports orthopedic examinations is of special importance.

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Thank you!

Hans Spring, MD
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Member Medical Committee FIS
Medical Director Reha Center and
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Rehazentrum Leukerbad

swiss olympic medical center

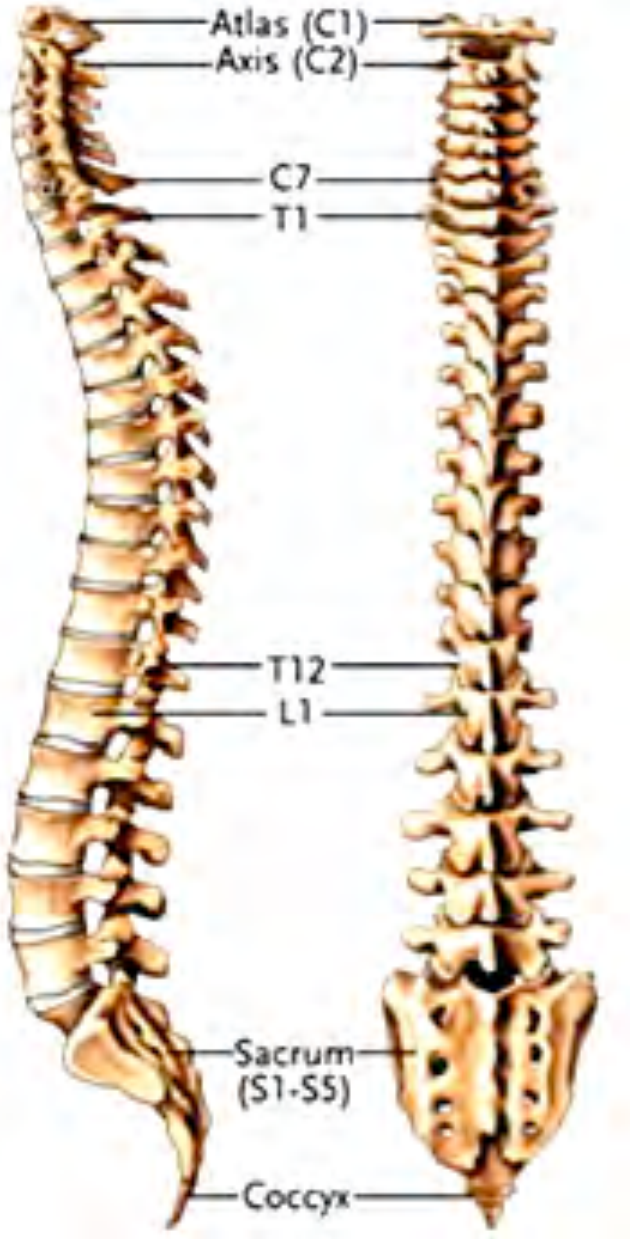
swissski

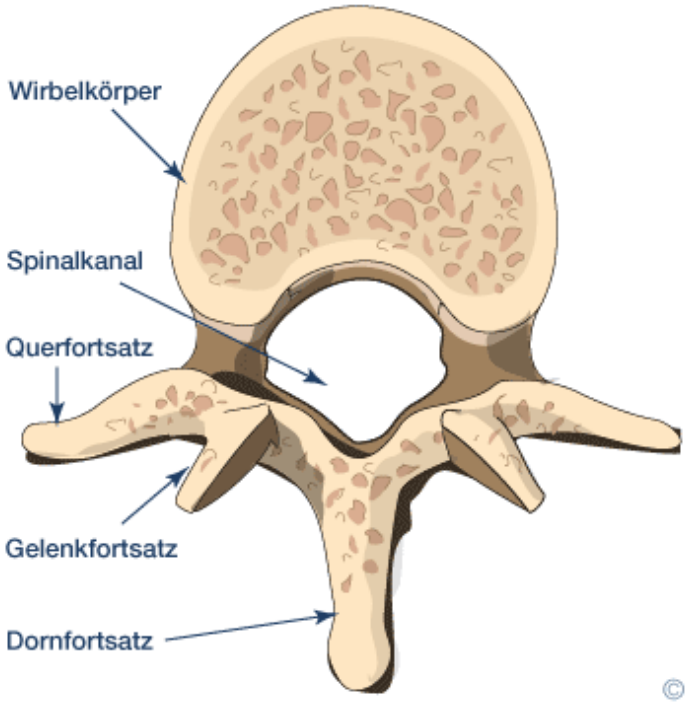
The spinal column of young athletes in ski racing

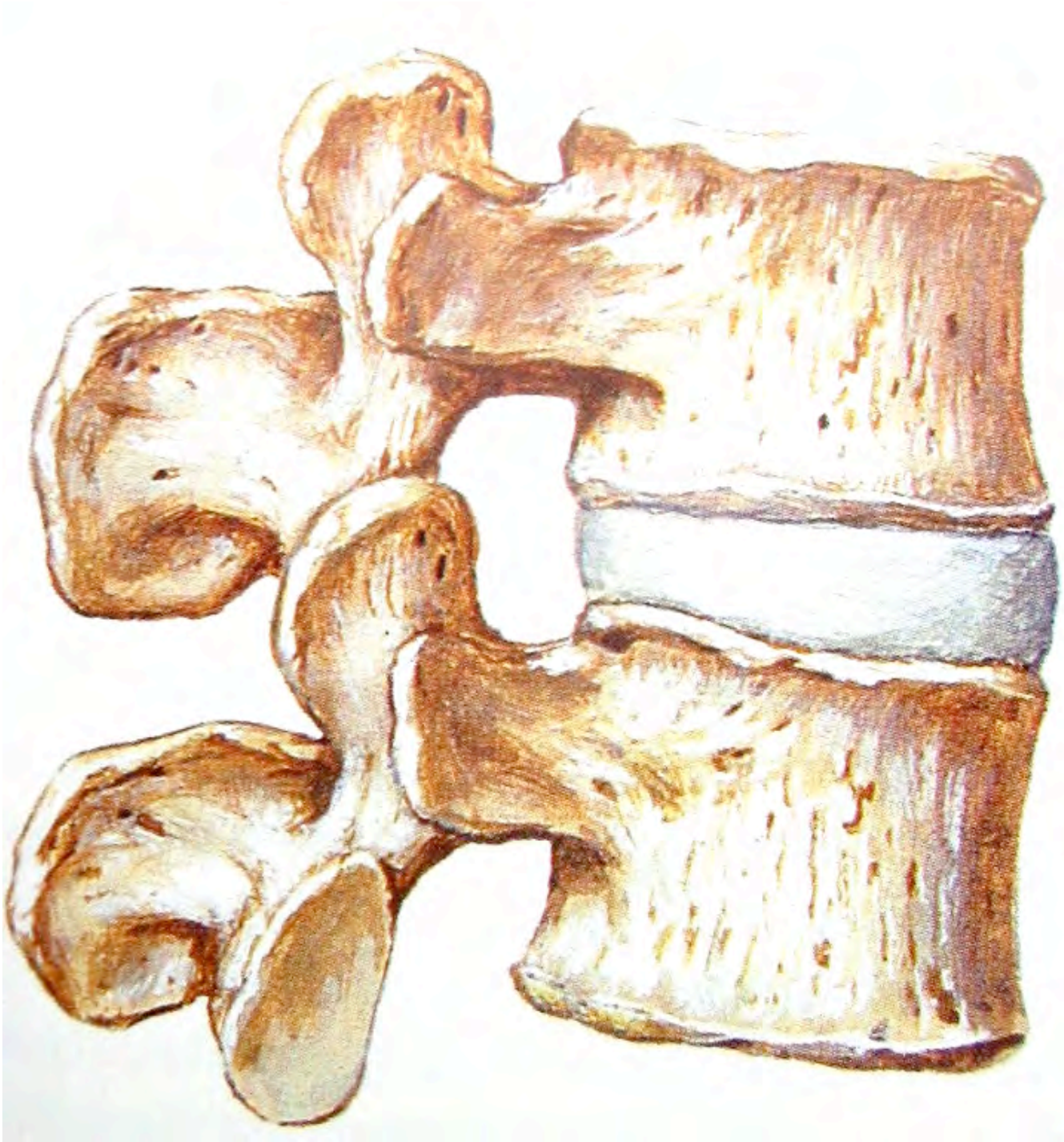
Hans Spring, MD
Swiss Ski Medical Team
Medical Director Reha Center and Swiss Olympic Medical Center Leukerbad, Switzerland

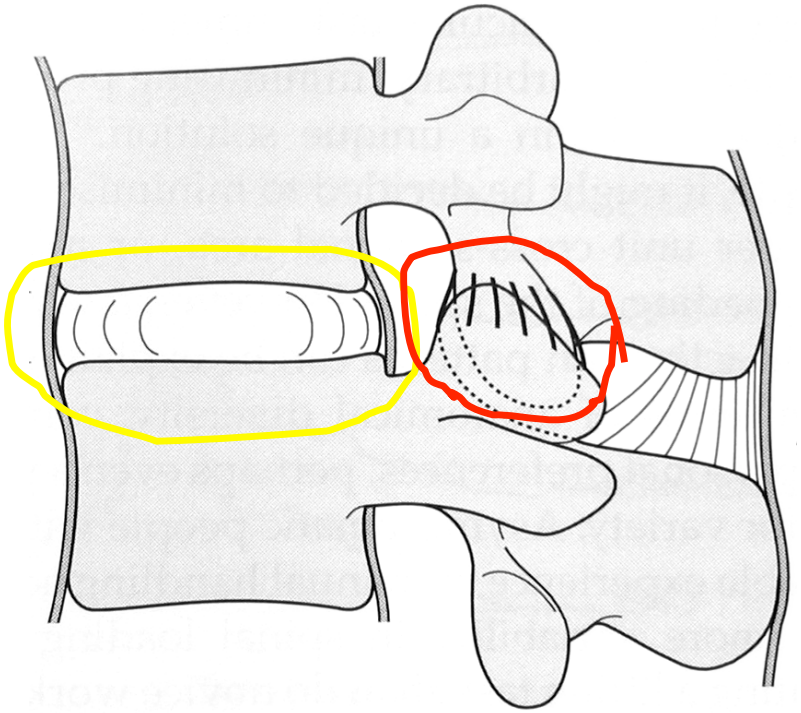
swiss olympic medical center

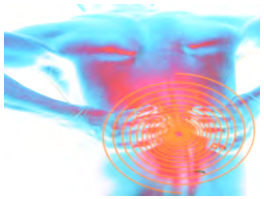
sport medical base
approved by
swiss olympic


Atlas (C1)
Axis (C2)
C7
T1
T12
L1
Sacrum
(S1-S5)
Coccyx

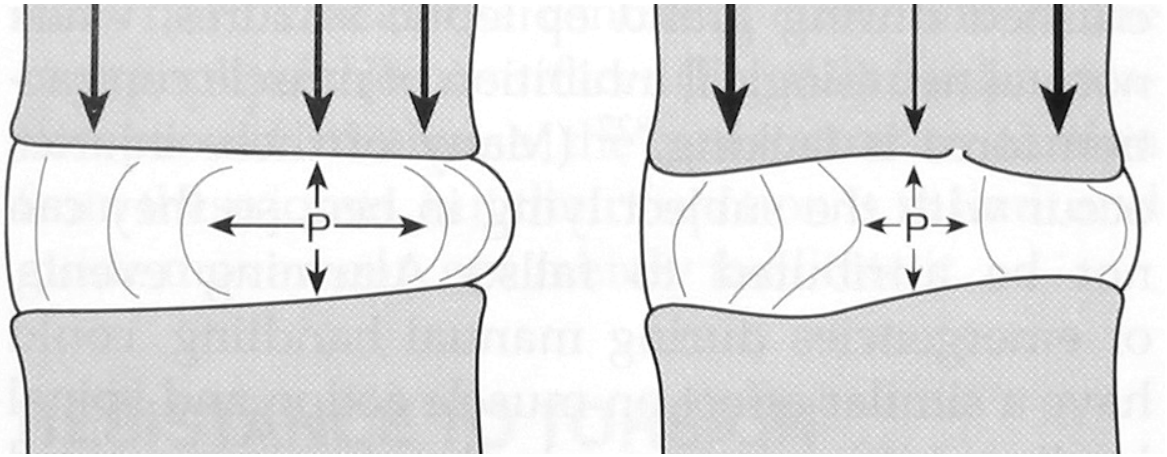

Wirbelkörper
Spinalkanal
Querfortsatz
Gelenkfortsatz
Dornfortsatz

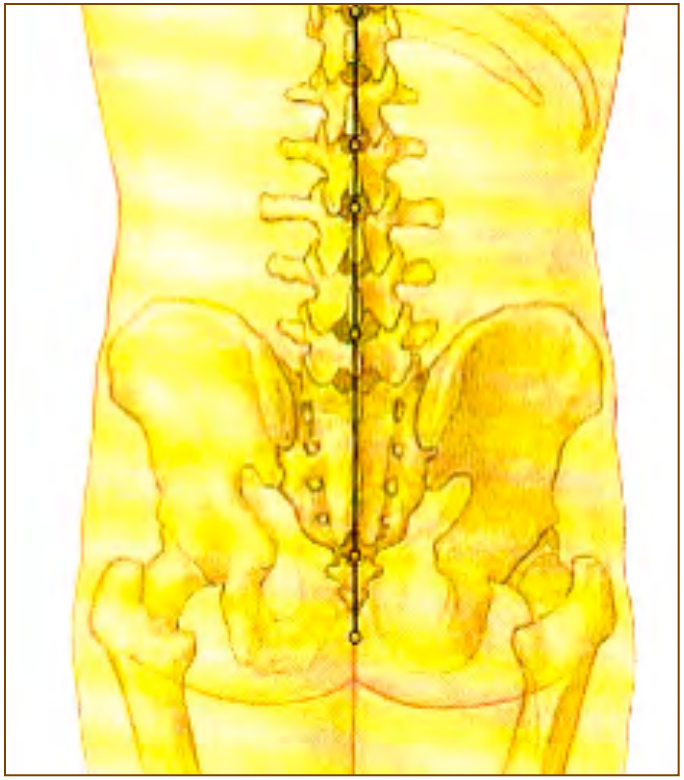


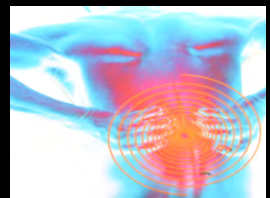




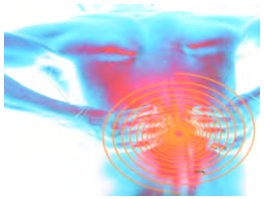
Functional unit

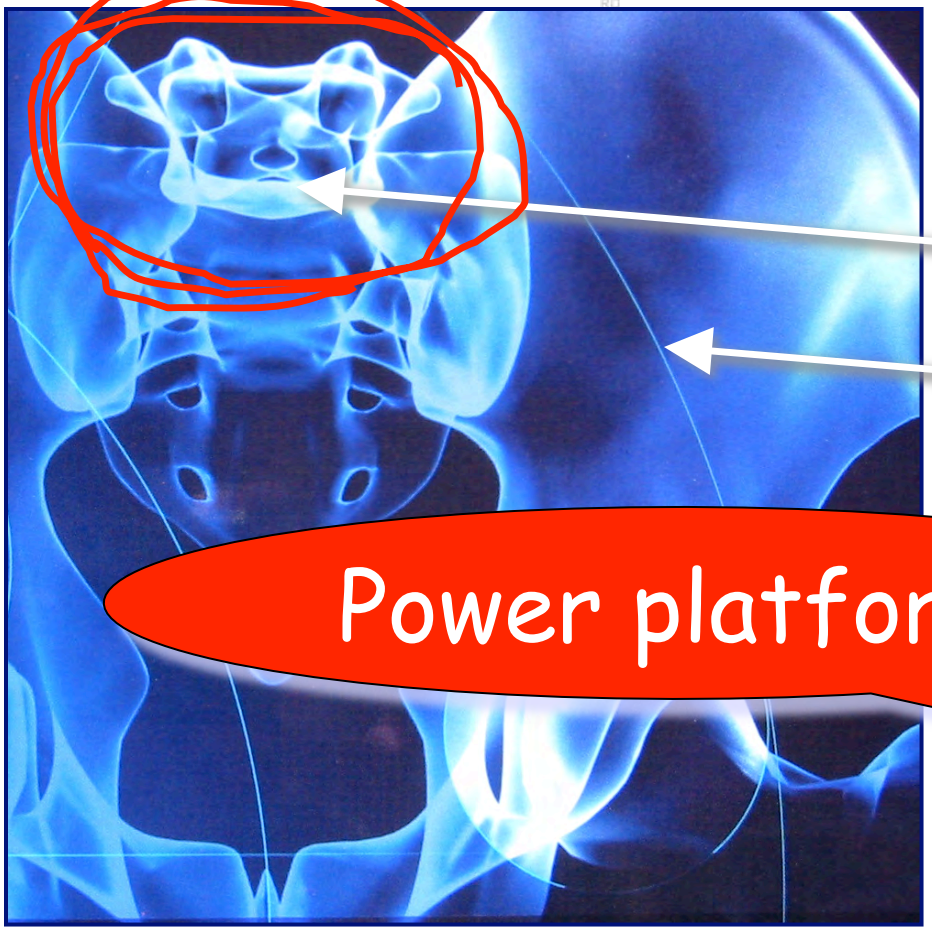






functional unit



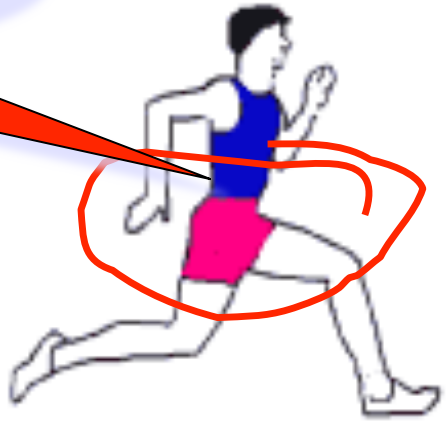


Spine

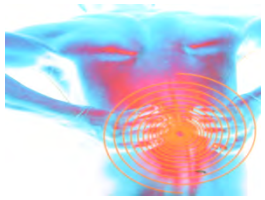
Pelvis

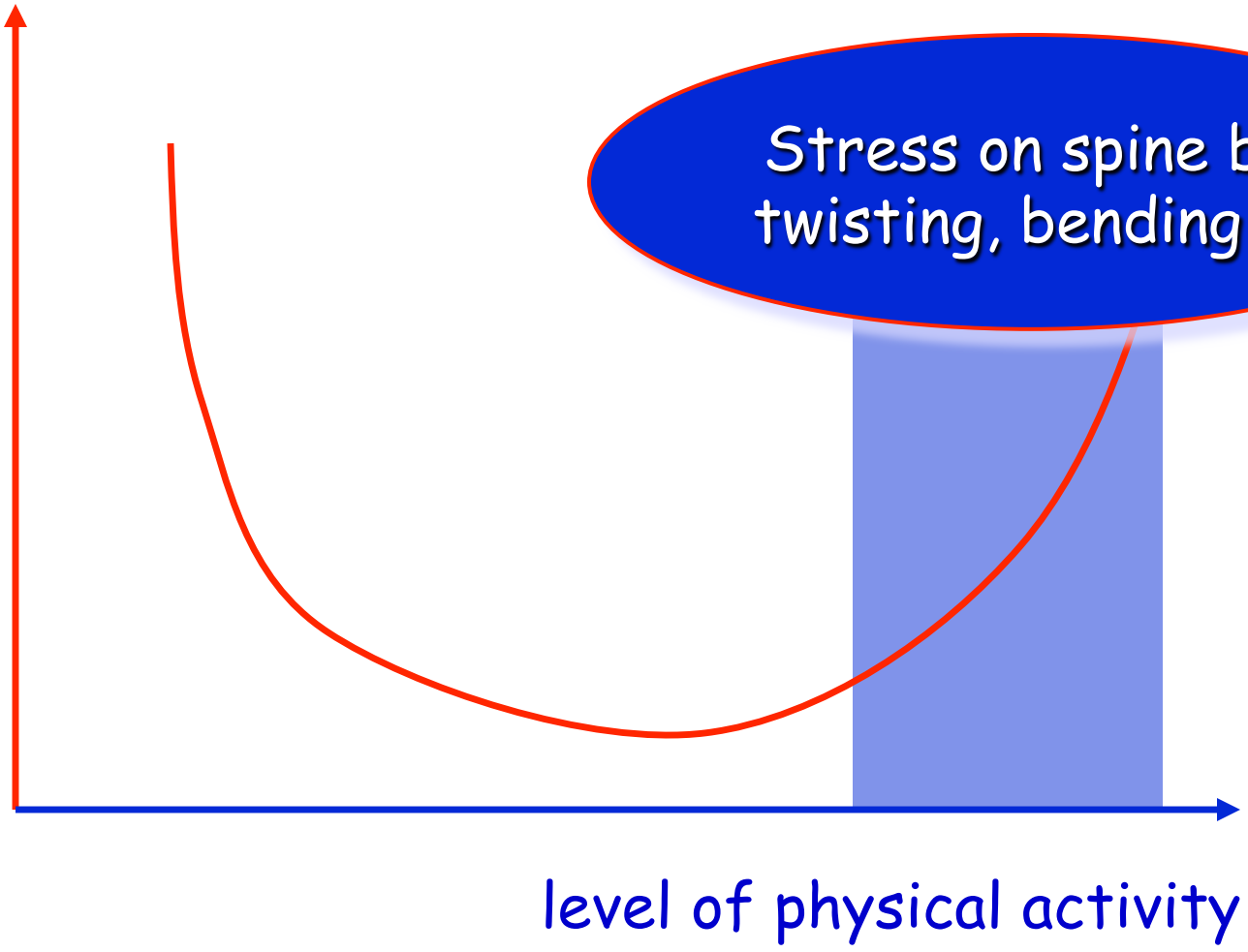
Hip

Power platform



Risk of low back pain

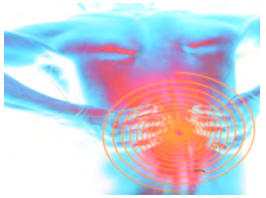


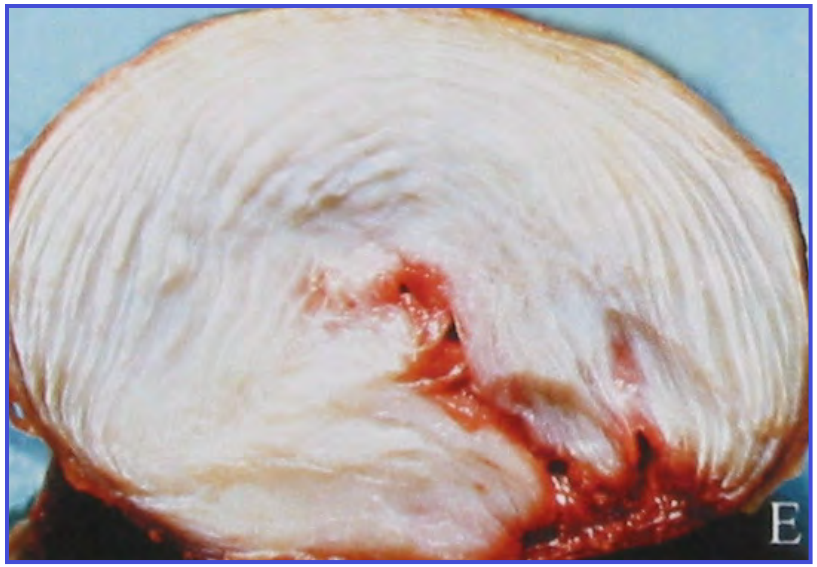


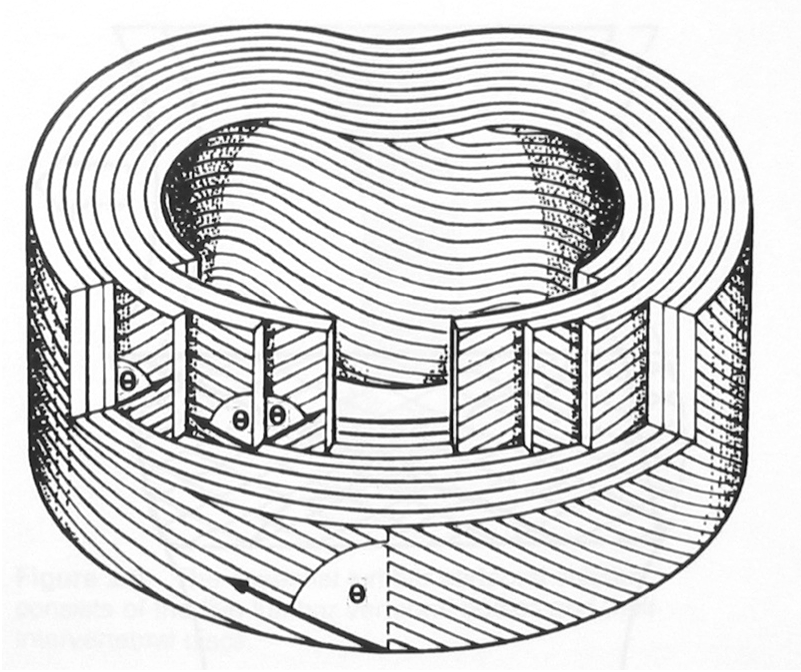
Campello et al. Scand J Med Sci Sports 1996

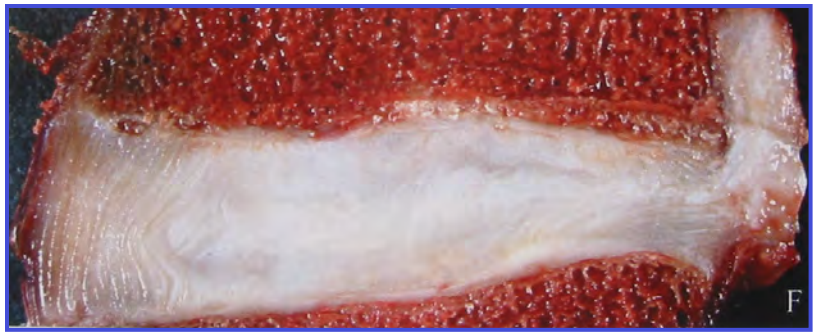
Capabilities

Physical Demands

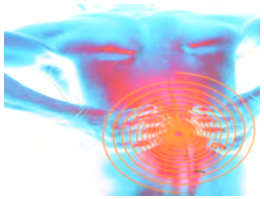


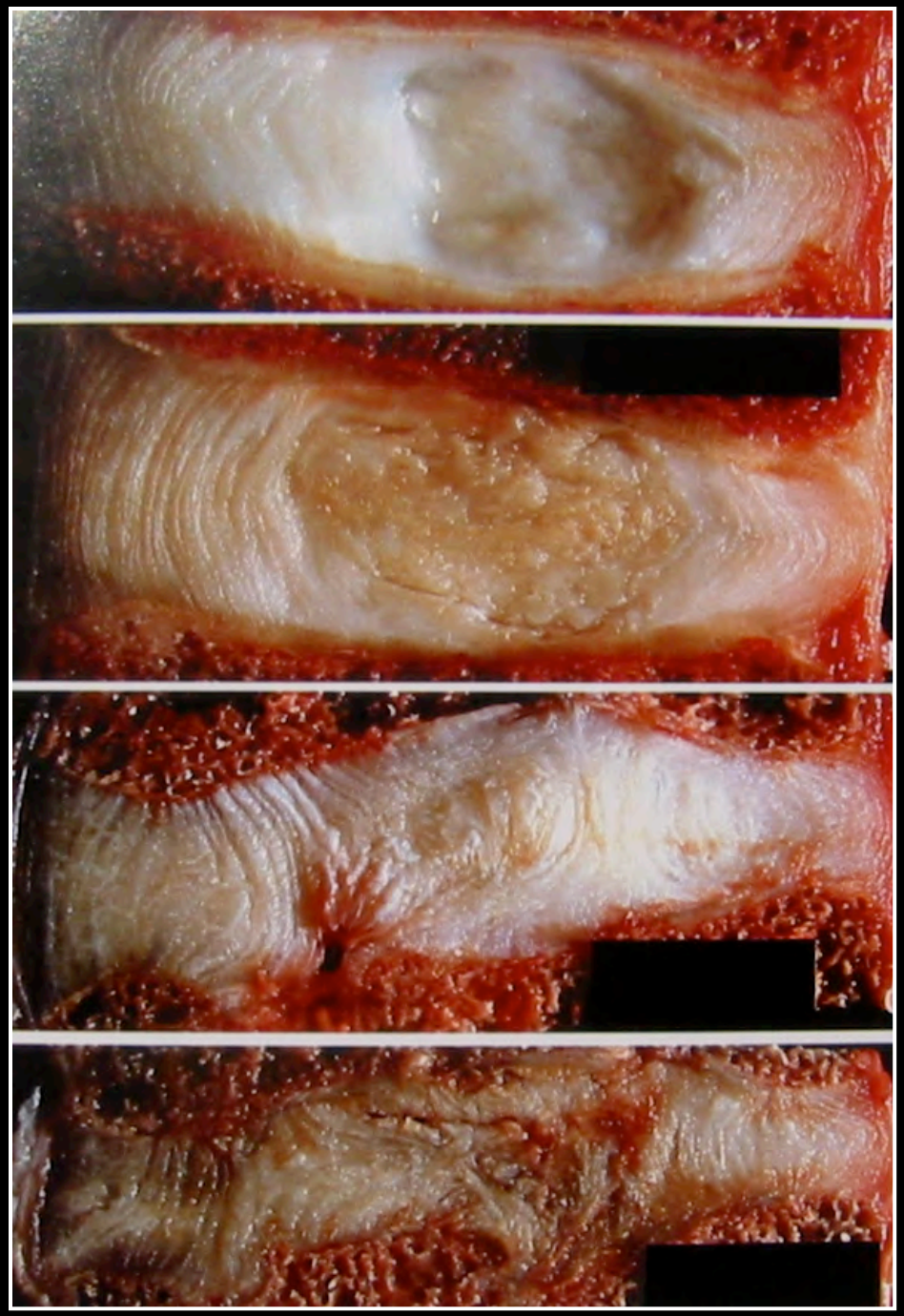


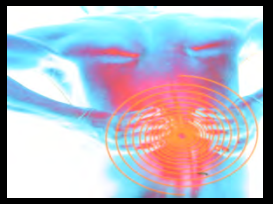




Disk

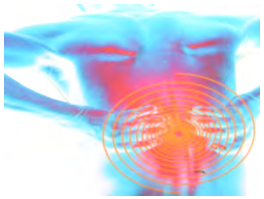


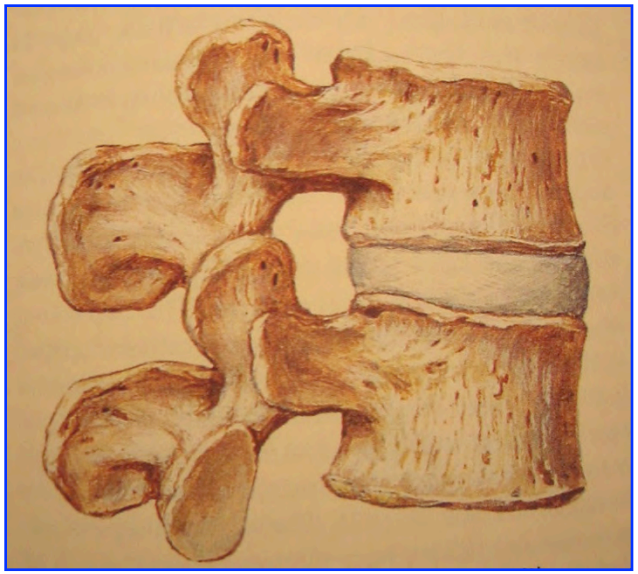


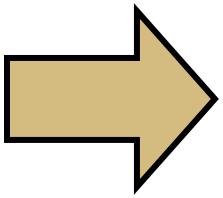


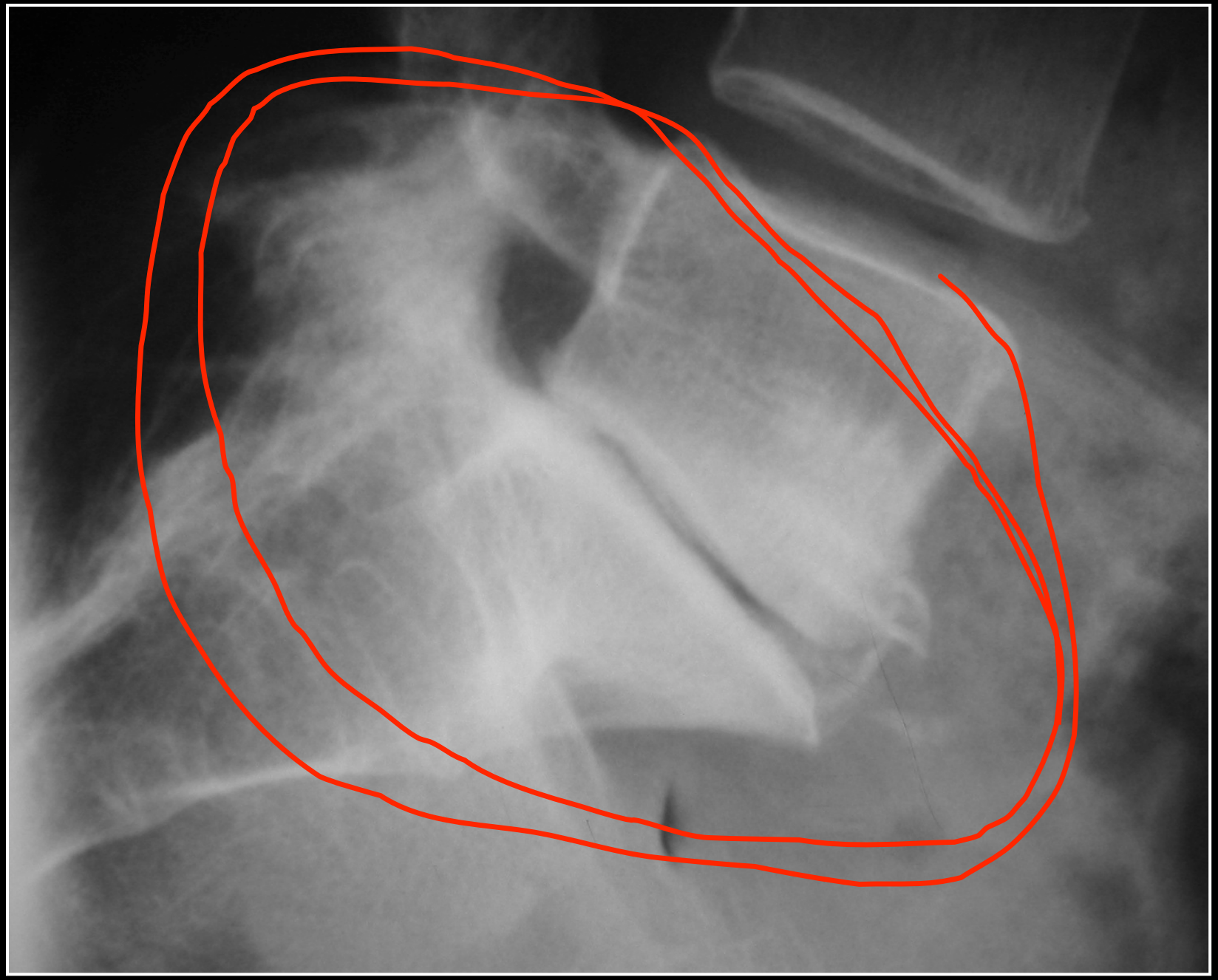
Disk degeneration

Spine degeneration

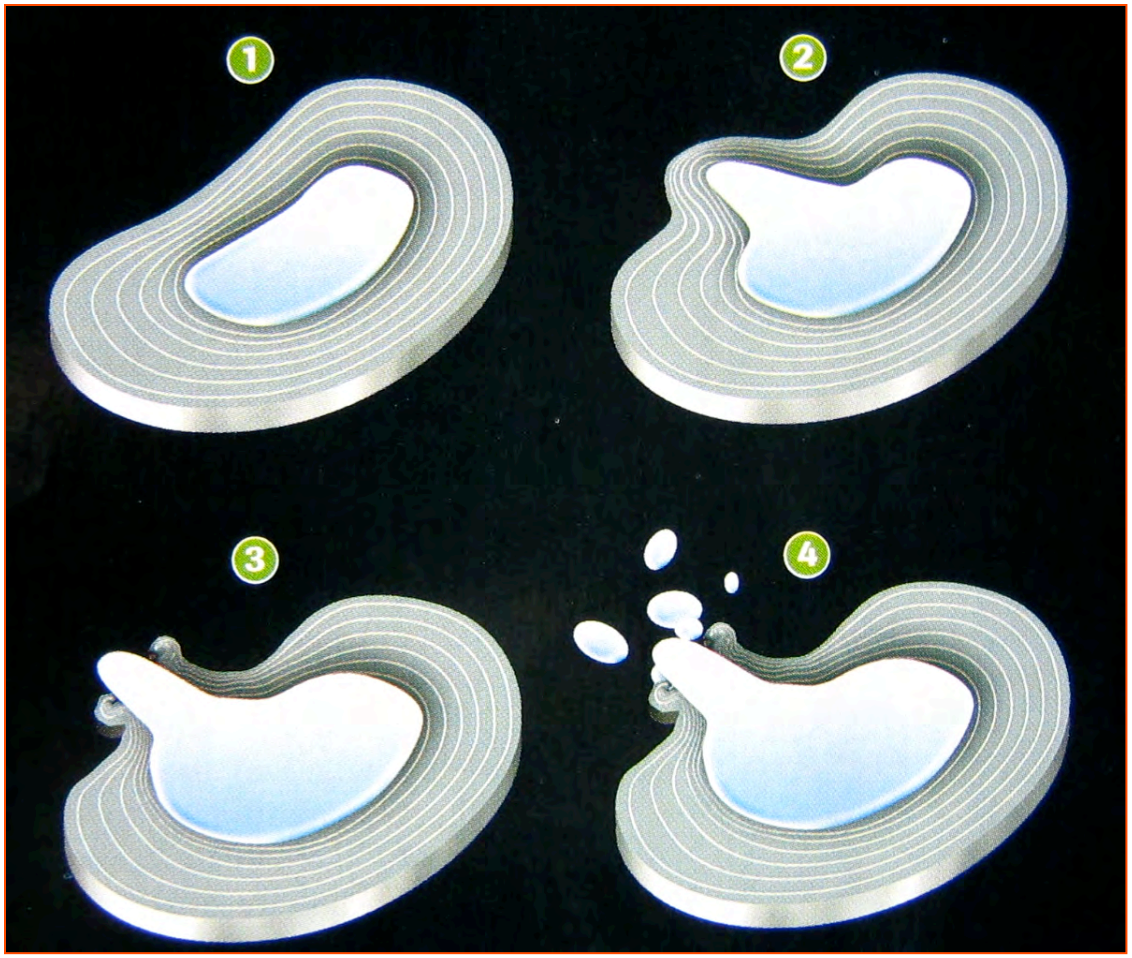


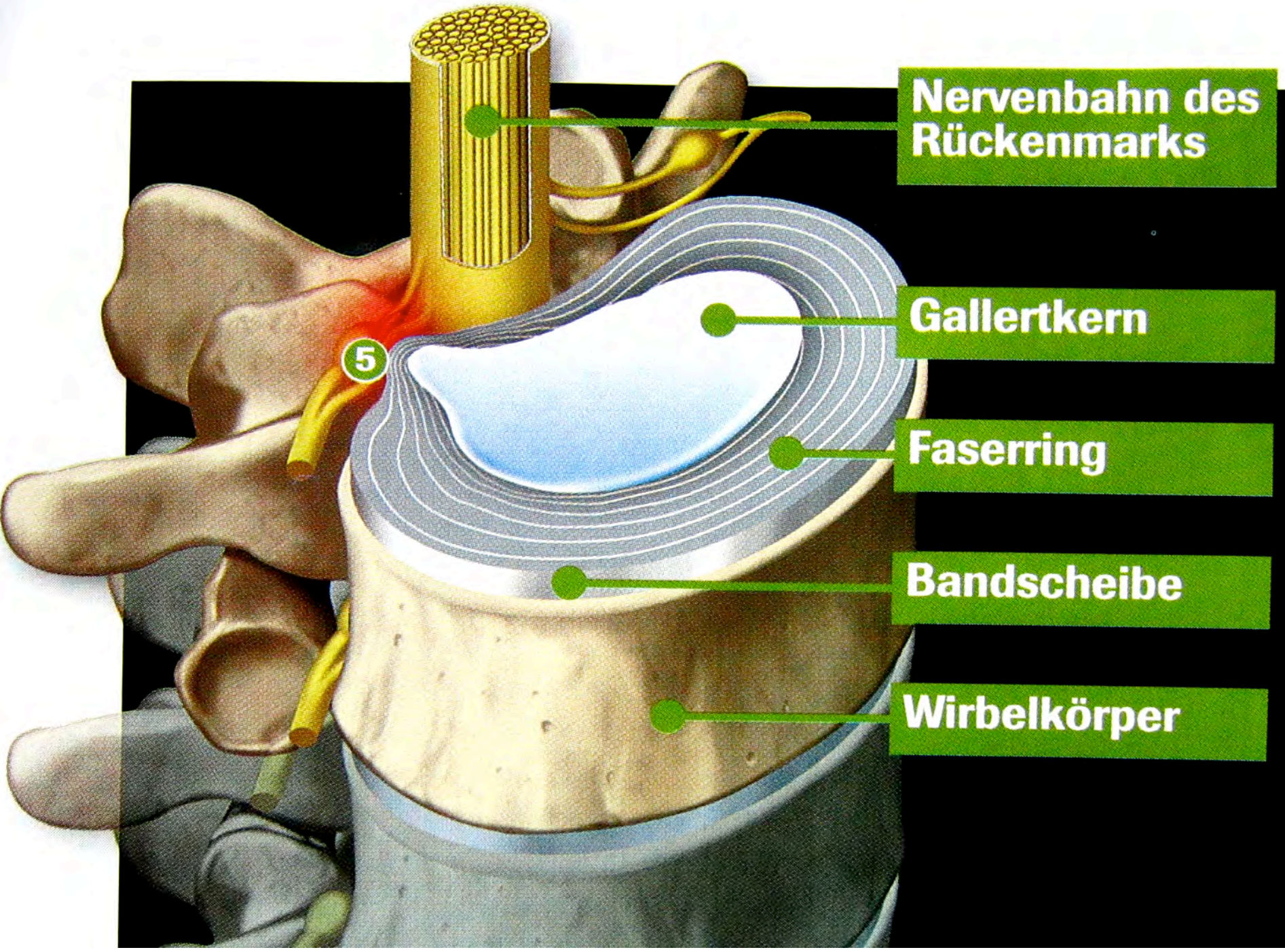




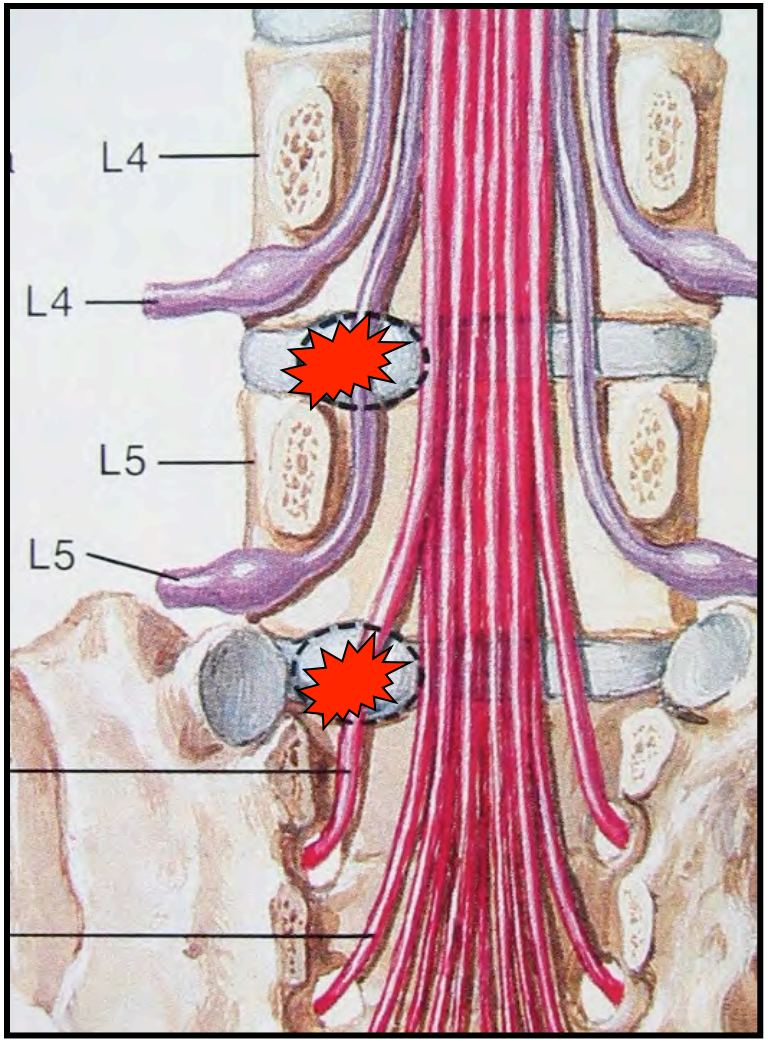


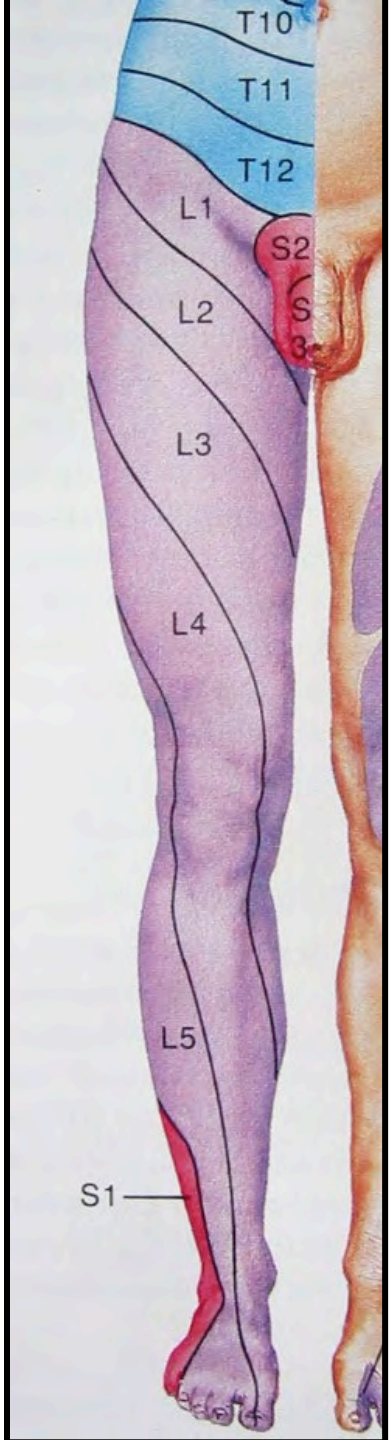
Herniated disk




Nervenbahn des Rückenmarks
Gallertkern
Faserring
Bandscheibe
Wirbelkörper
5

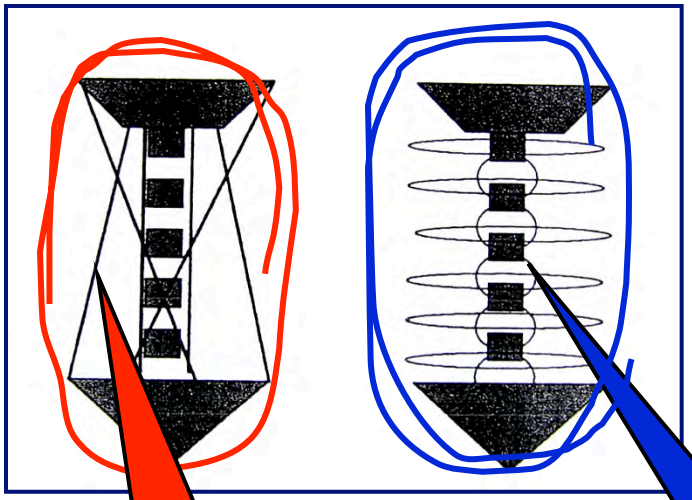
Herniated disk

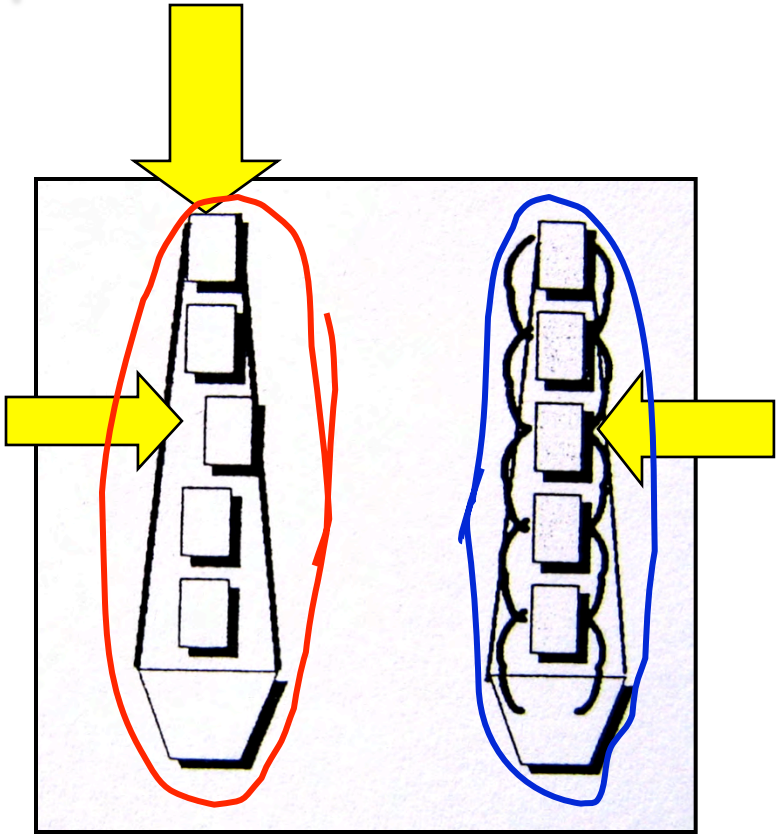




Muscles:
Lokal system
Global system

global and local system





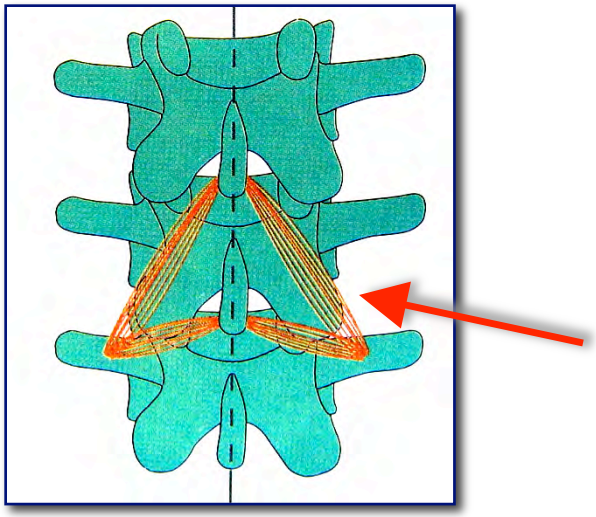
global mobility muscles

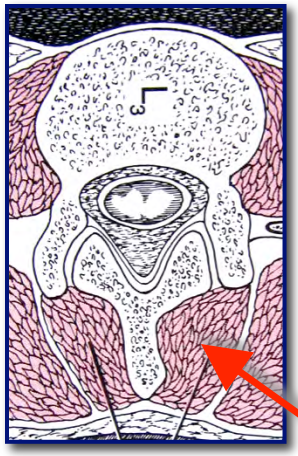
local stability muscles

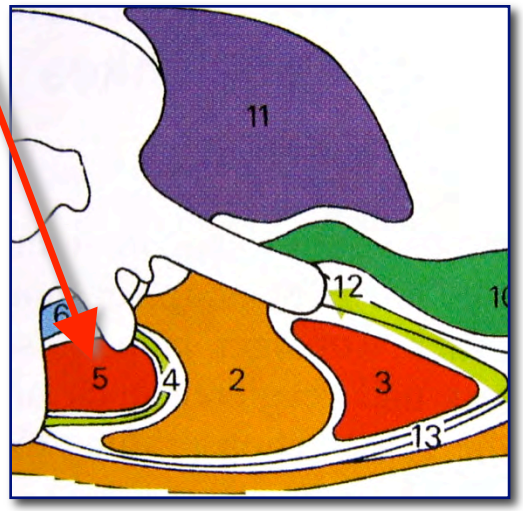
mod. nach Bergmark 1989

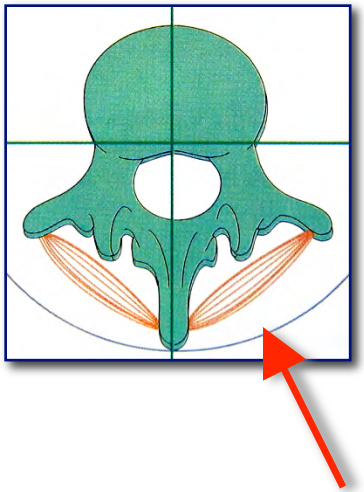
local system

m. multifidus







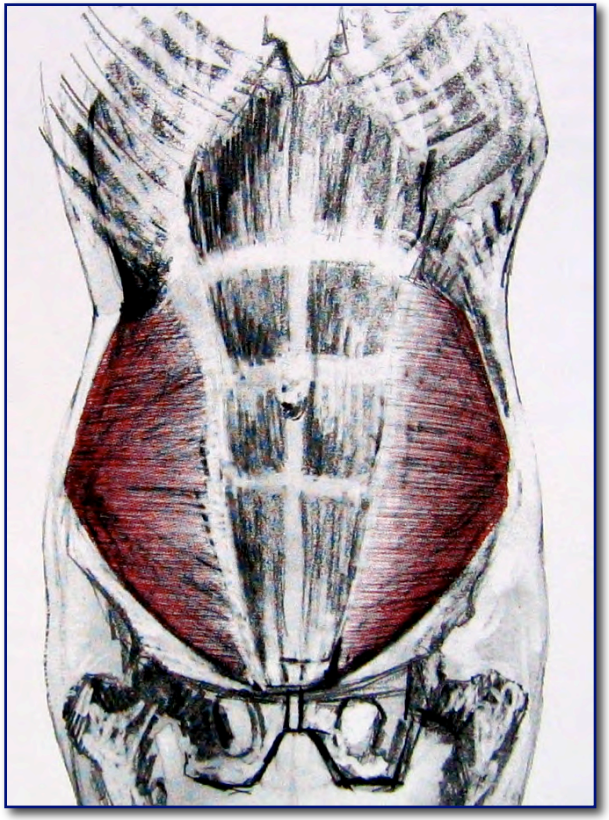


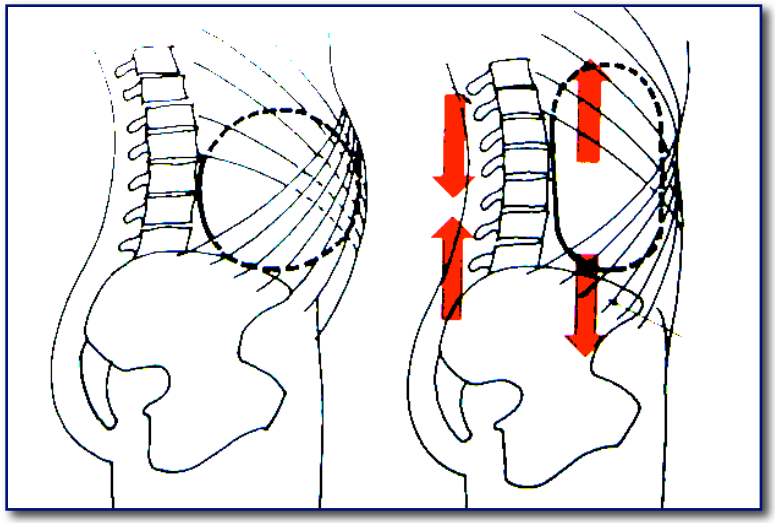
- ✓ small, close to the spine
- ✓ slow twitch > fast twitch
- ✓ 58-80% of segmental stability by m. multifidus

Wilke 1995, Panjabi 1992

local system

m. transversus abdominis





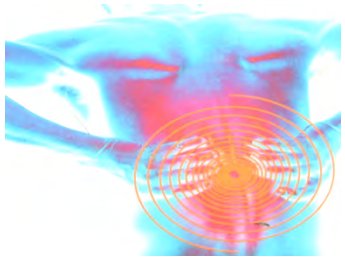
increased intraabdominal pressure

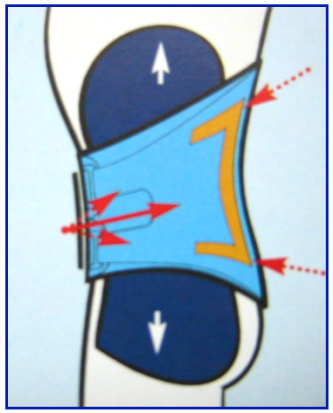
coworkers:

- ✓m. multifidus,
- ✓diaphragme
- ✓pelvic floor muscles

stability by air

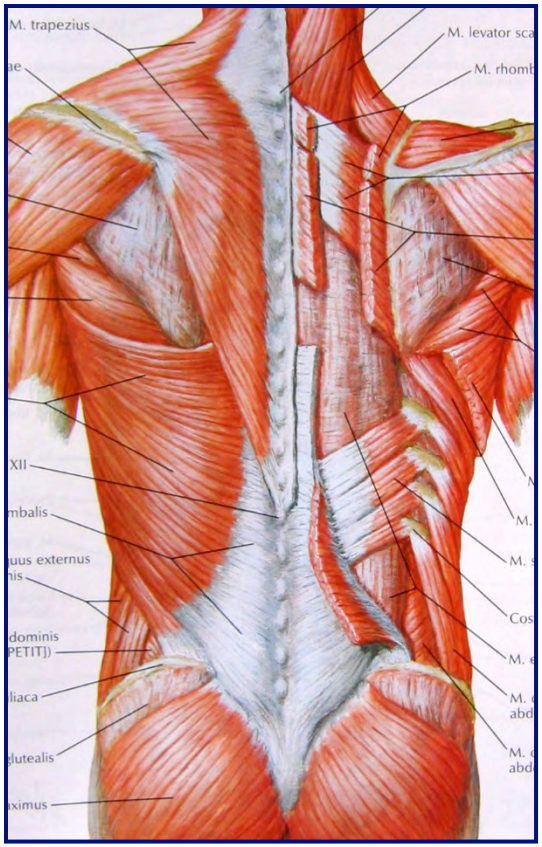
Braces

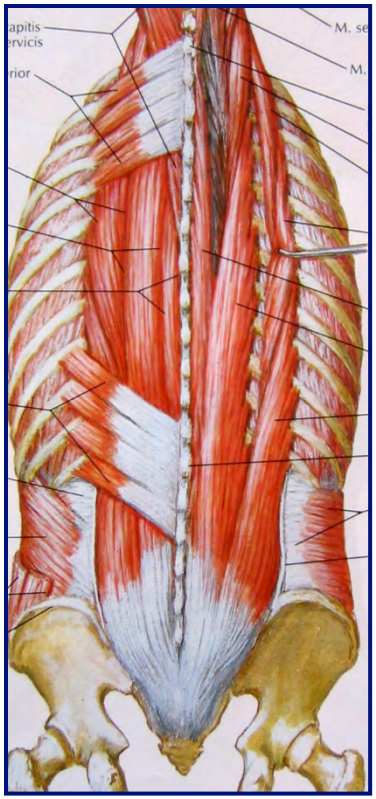


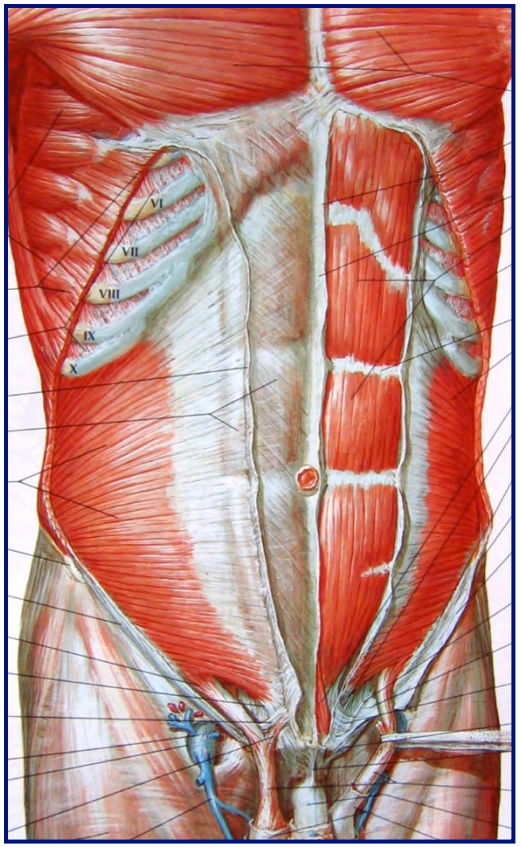


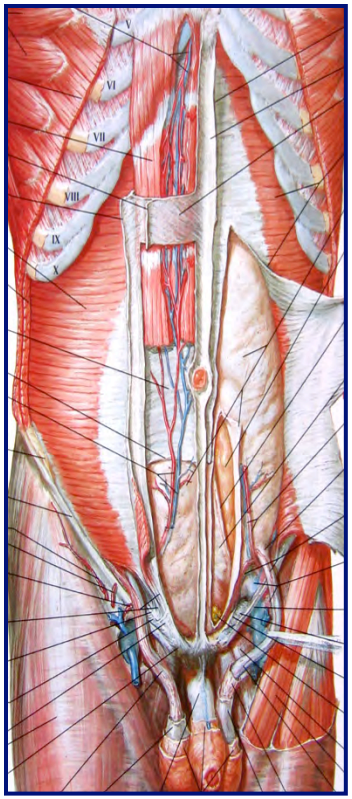
Albert Gollhofer, Freiburg
Elastische Rückenbandagen
Sportverletzung/Sportschaden 9/2002

global system

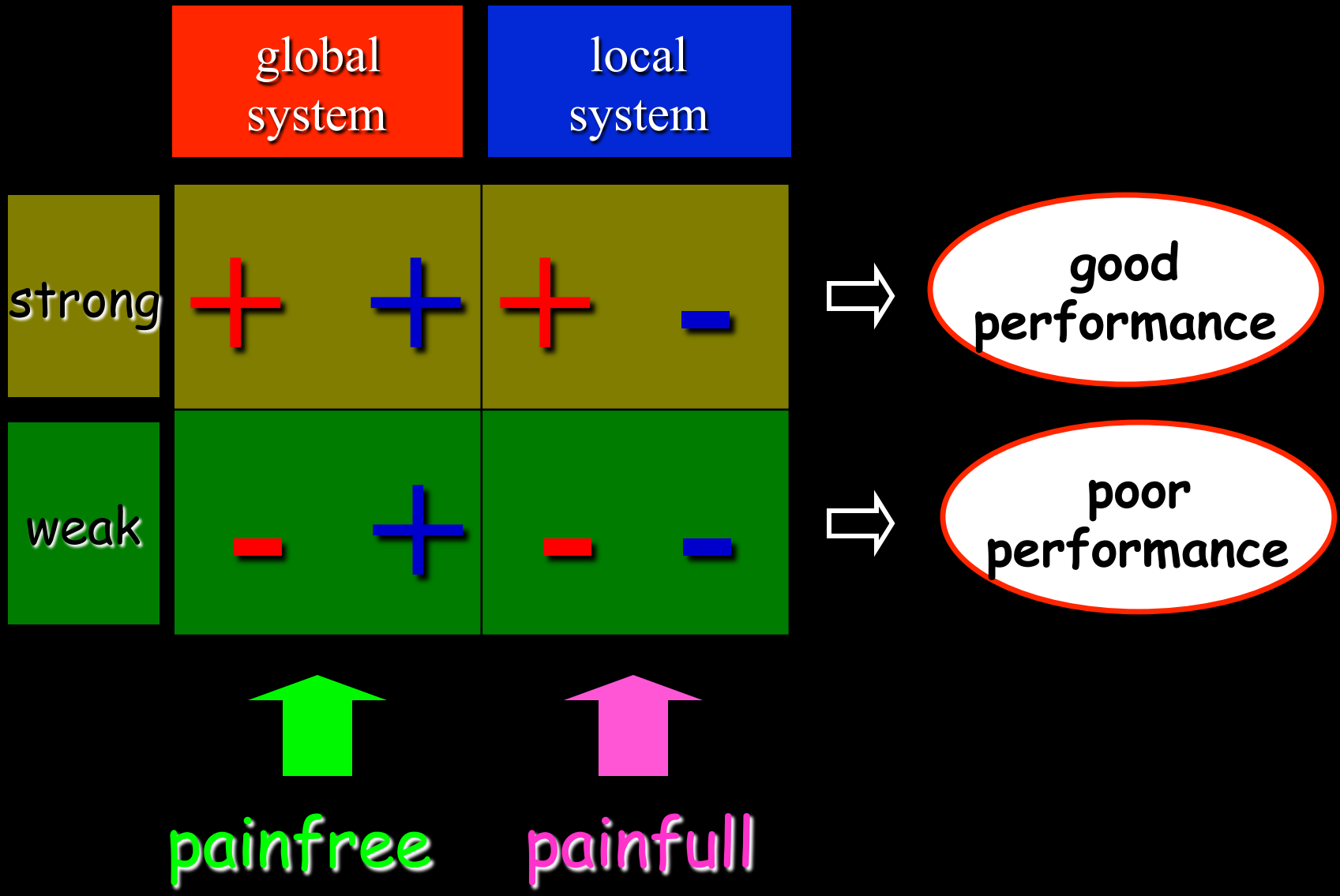






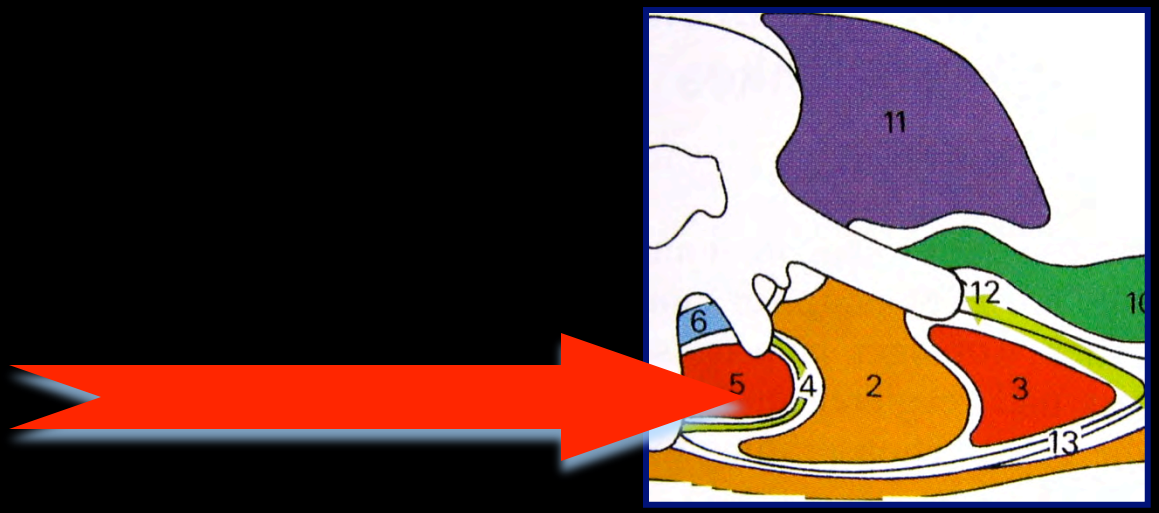


Stabilisation of the spine

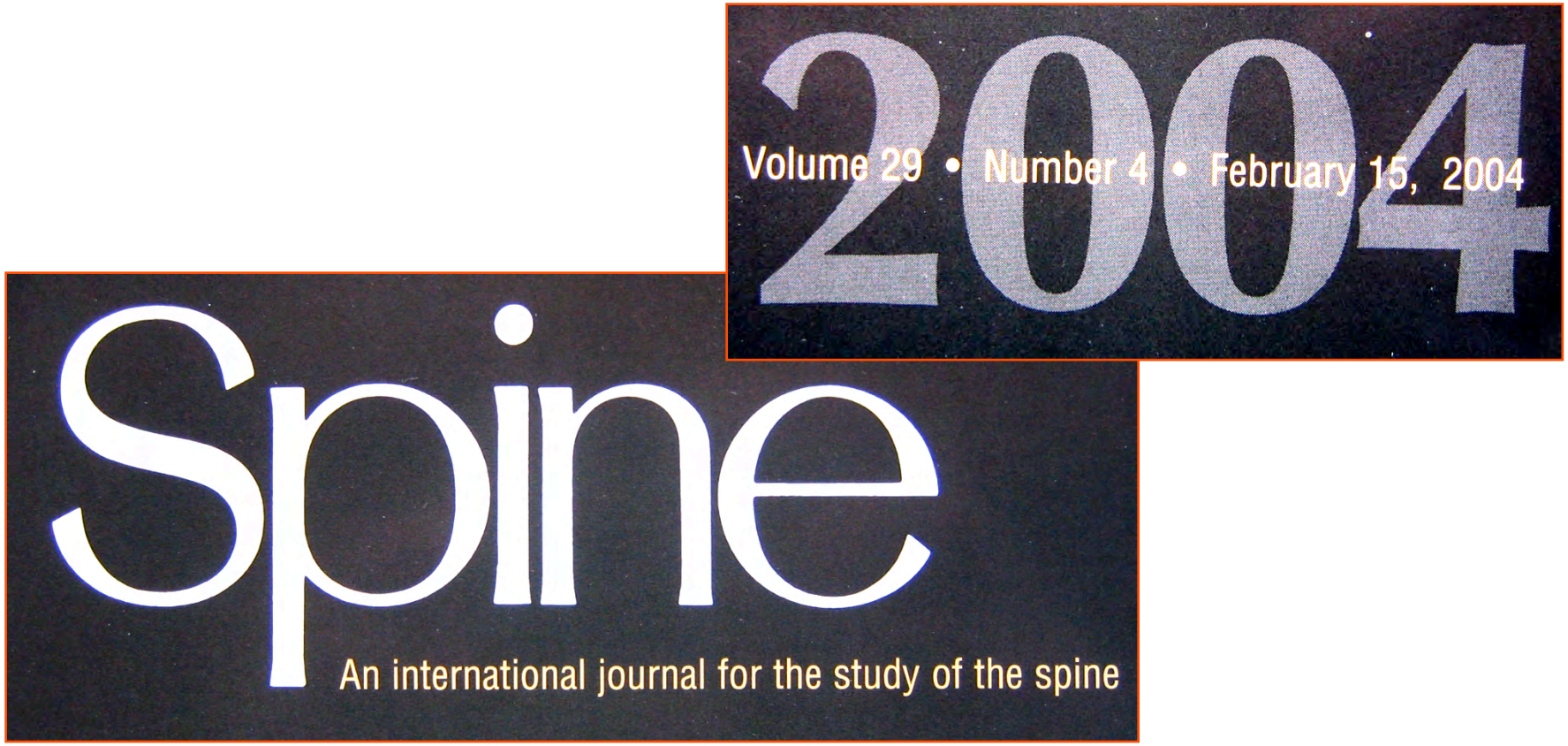


Fact

Pain inhibits the local stability muscles



low back pain ?



SPINE Volume 29, Number 4, pp 449–454

Low Back Pain Among Endurance Athletes With and Without Specific Back Loading—A Cross-Sectional Survey of Cross-Country Skiers, Rowers, Orienteerers, and Nonathletic Controls

Roald Bahr, MD, PhD,* Stig Ove Andersen, MSc,* Sverre Løken, MD,*† Bjørn Fossan, PT,‡§ Torger Hansen, PT,§ and Ingar Holme, PhD*

Study Design. Cross-secti
competing at the national eli
ing, rowing, and orienteering

Study Design. Cross-sectional survey among athletes competing at the national elite level in cross-country skiing, rowing, and orienteering, as well as a matched nonathletic control group.

Objective. To compare the prevalence of symptoms of low back pain between endurance sports with different loading characteristics on the lumbar region: cross-country skiing, rowing, and orienteering, as well as a nonathletic control group.

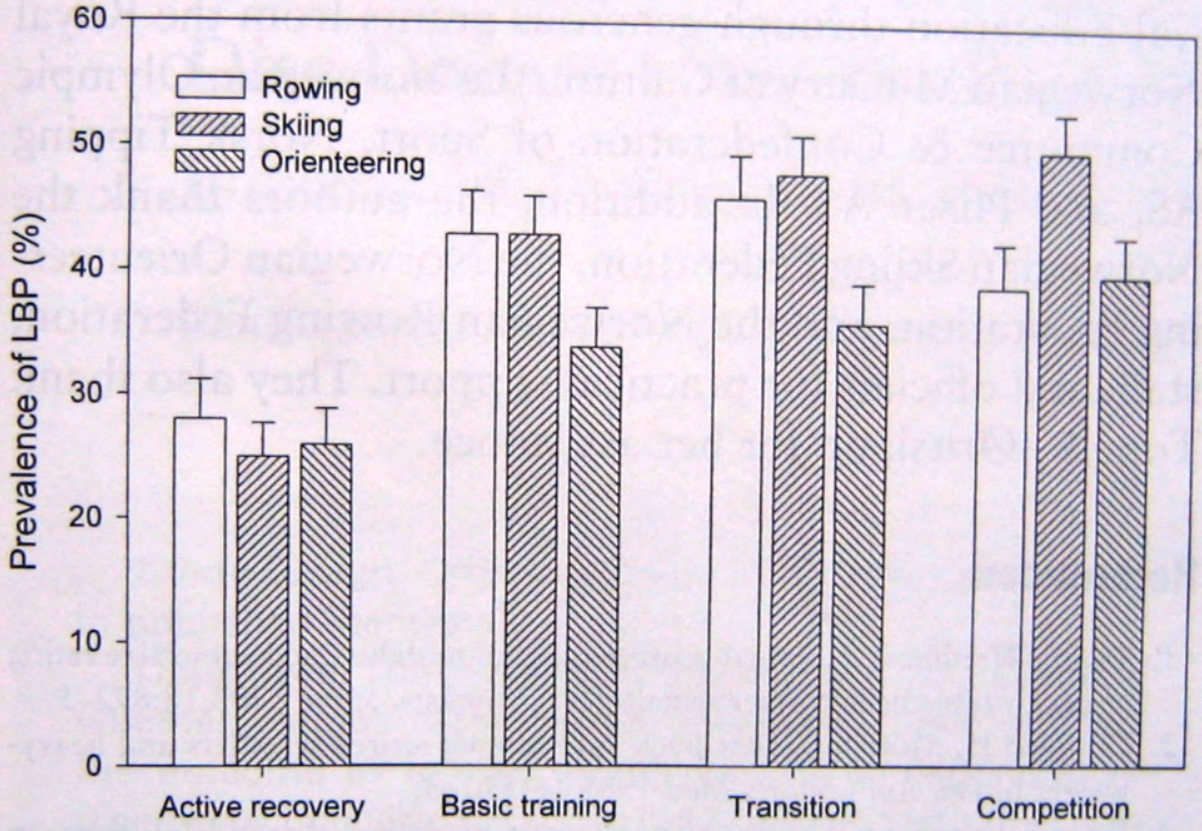


Figure 1. Prevalence of reported LBP (% ± SE) during four periods of the season: the active resting period, the basic training period, the transitional period, and the competition season for cross-country skiers (n = 257), orienteerers (n = 227), and rowers (n = 198).

controls. This
adjusting for
and age at s
were chosen
they did not
required by e
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is an endurar
navigating be
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skiers and rov
may have its c
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in mind, there

BACK PROBLEMS ASSOCIATED WITH ATHLETES

All athletes are susceptible to back injury. In skiing, few athletes make it through an entire season without experiencing some form of back pain…

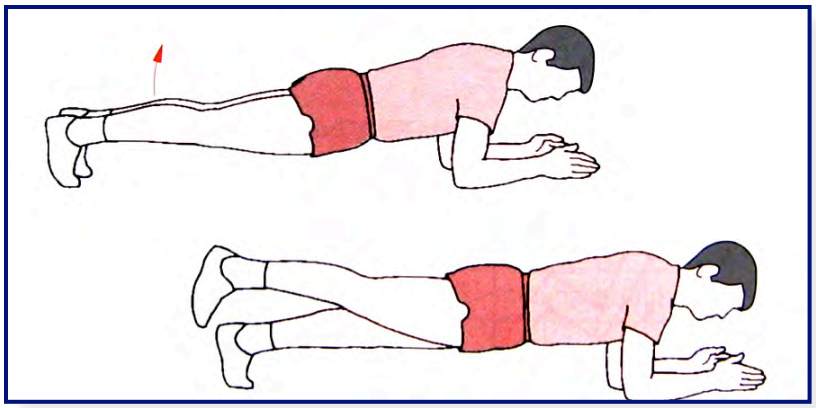
Dr. Bob Morrell Canadian National Alpine Ski Team

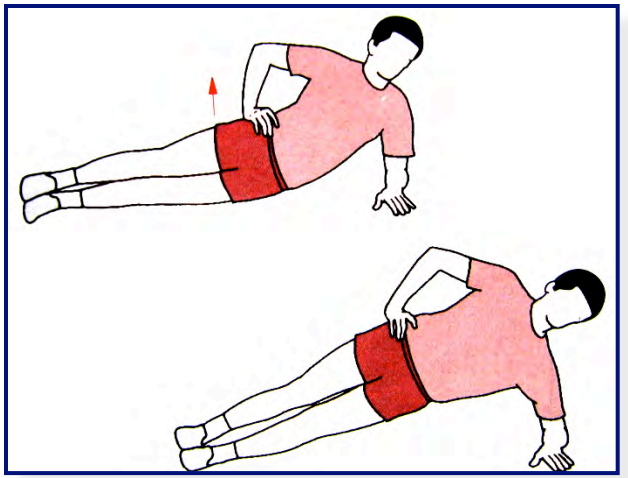
Carl Peterson PT. Canadian National Ski Team

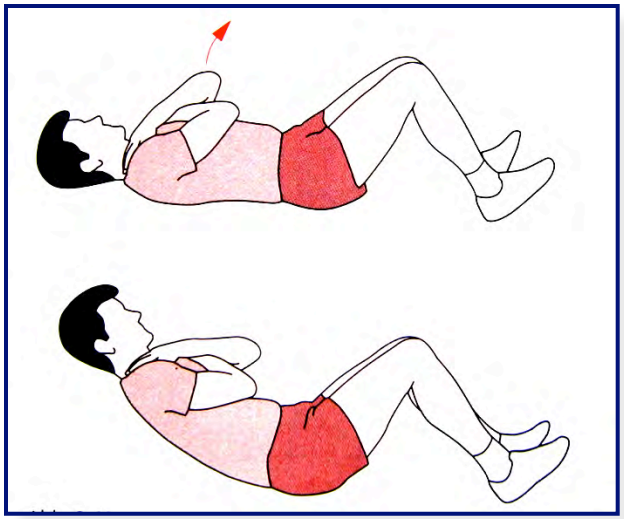
Prevention!

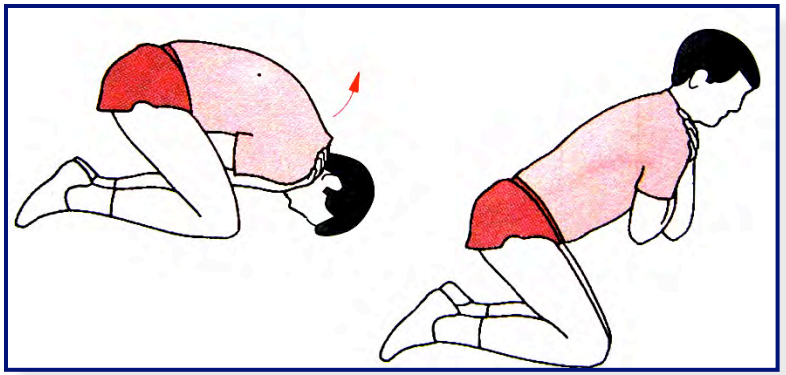
helmet
back protection

Muscle testing

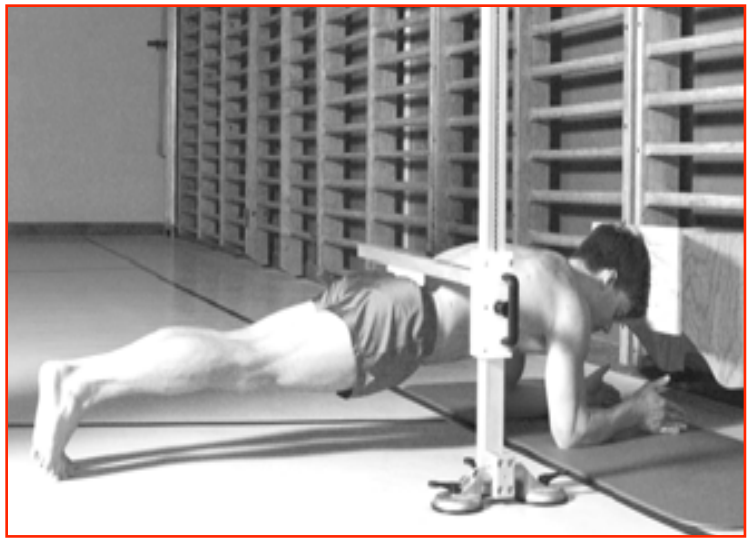


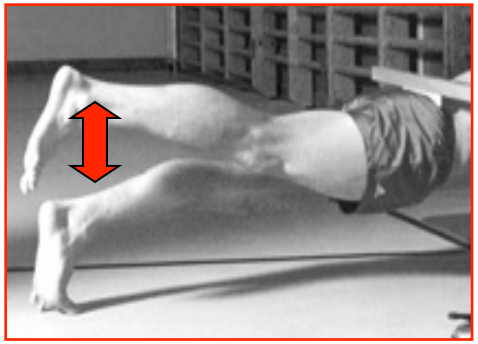




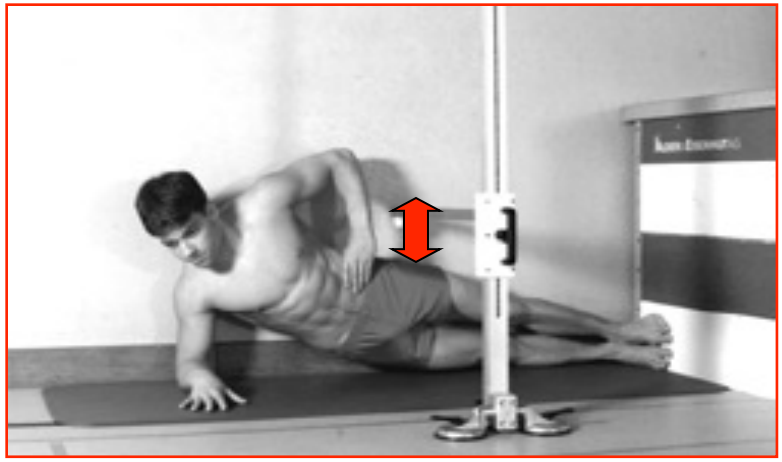


1. ventral





2. lateral



3. dorsal

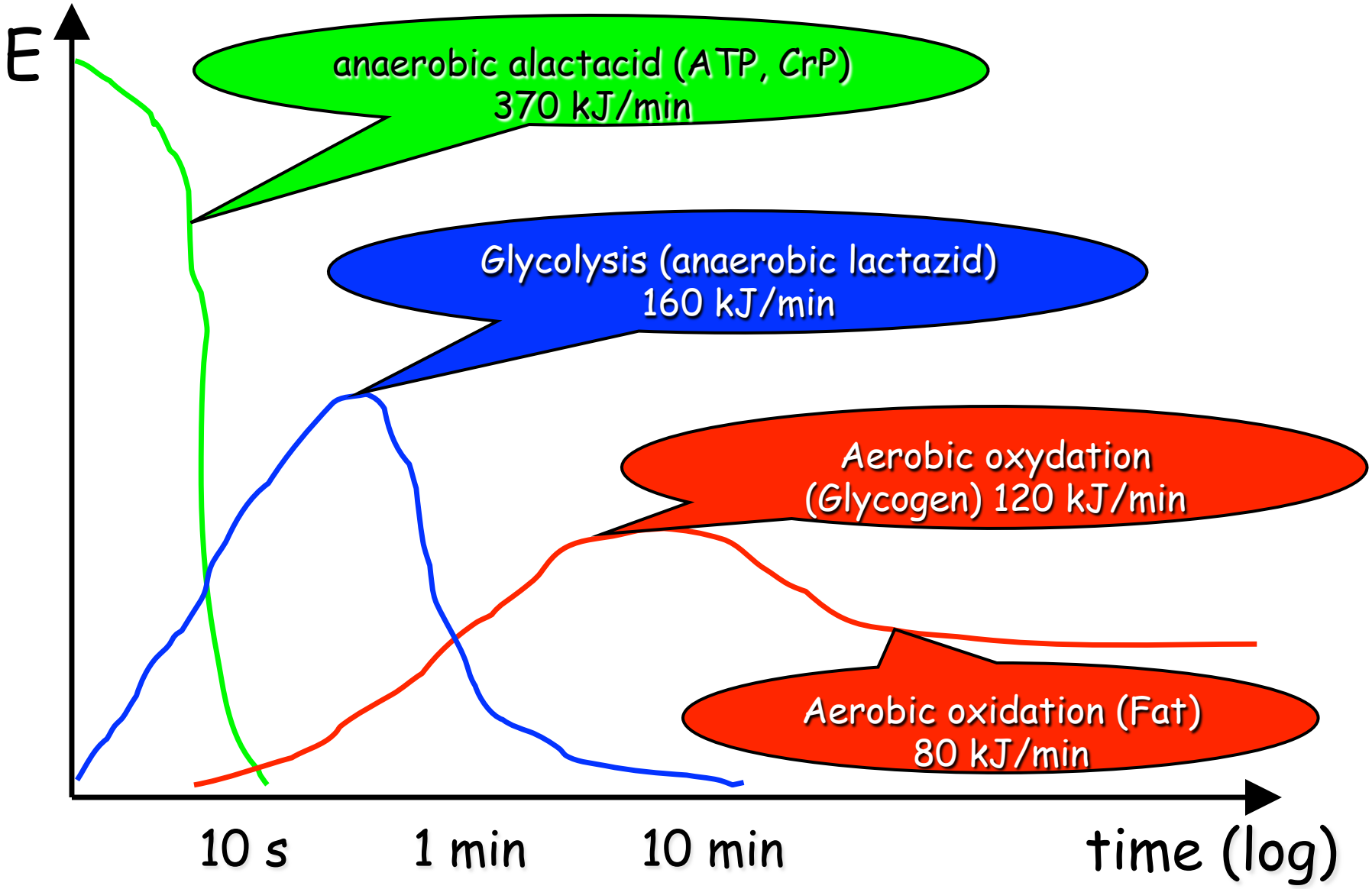
manuals
www.swissolympic.ch
Spitzensport/Sportmedizin/Downloads

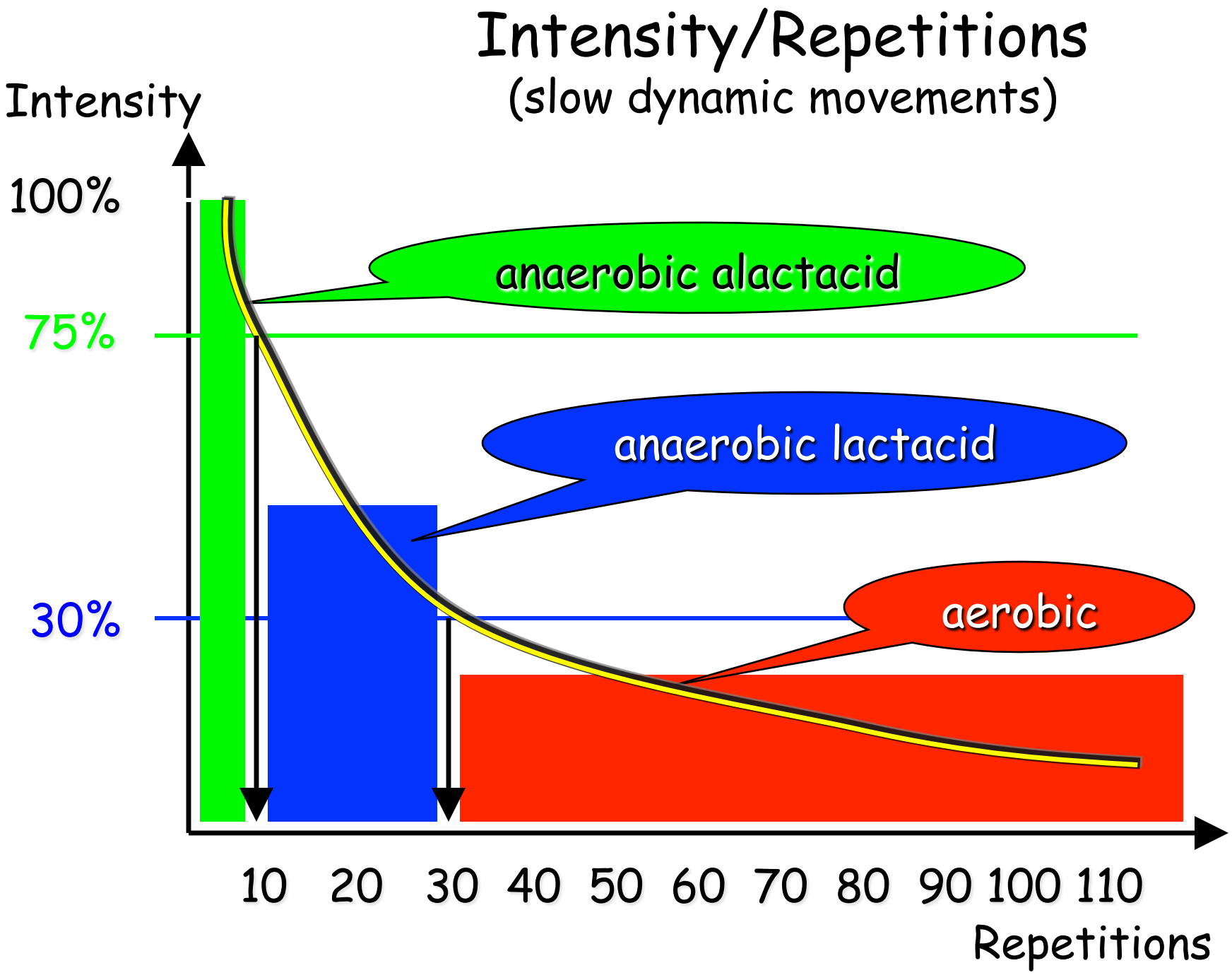
swiss olympic medical center

Isokinetic Contrex back system

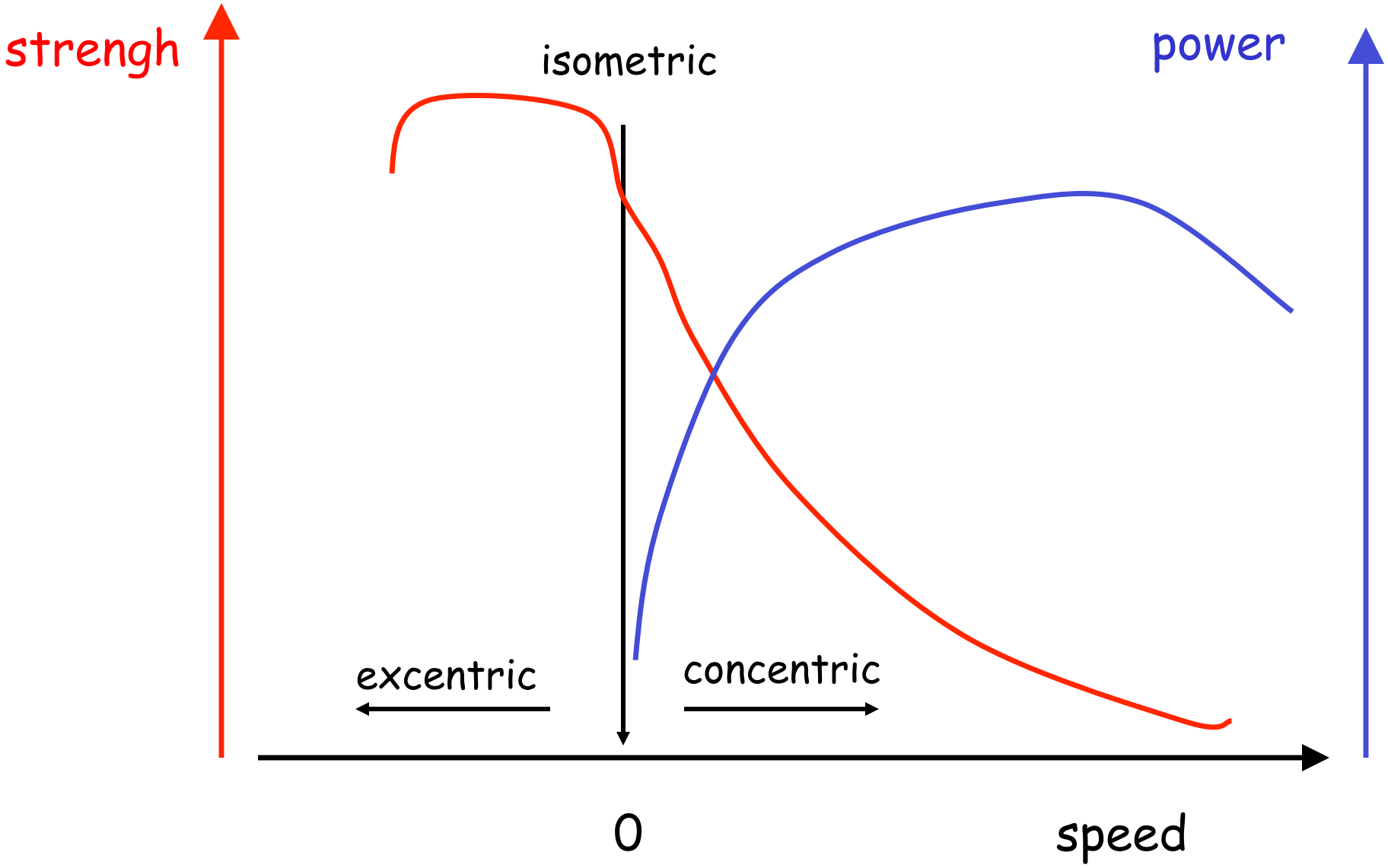
swiss olympic medical center

Energy production




Intensity/Repetitions
(slow dynamic movements)
Intensity
100%
75%
30%
anaerobic alactacid
anaerobic lactacid
aerobic
10 20 30 40 50 60 70 80 90 100 110
Repetitions

strengh/power/speed



Die 10 besten Übungen für Ihre tägliche Gymnastik

Zusammengestellt von
Dr. Hans Spring,
Ärztlicher Direktor Rehazentrum und
Swiss Olympic Medical Center
Leukerbad

Wie dehnen?

Nehmen Sie die abgebildete Dehnstellung ein.
Ändern Sie langsam die Position in Pfeilrichtung, dadurch verstärkt sich die Dehnung.
Vermeiden Sie ruckartige Bewegungen – kein Wippen.
Halten Sie die Stellung 10 bis 20 Sekunden.
Atmen Sie regelmässig und ruhig.
Wiederholen Sie die Übung 2-mal auf beiden Seiten.

Übung 10
Kopf zur Gegenseite neigen. Arm nach unten ziehen und ausatmen.

Übung 9
Ferse in Richtung Gesäss ziehen. Knie langsam nach hinten bewegen.

Übung 8
Rumpf mit gestreckter Wirbelsäule nach vorne neigen.

Übung 7
Fixation des Oberschenkels in Hüftbeugung, aktive Kniestreckung.

Übung 6
Gleichgewichtsübung auf gerollter Matte. Zu Beginn mit offenen Augen, später auch mit geschlossenen Augen.

Ausdauertraining

Wählen Sie Sportarten, die Ihnen angenehm sind:
Laufen, Standfahrrad, Fahrrad, Nordic Walking, Bergwandern, Schwimmen, Aquajogging, Skilanglauf, Schneeschuhlaufen.
Belasten Sie sich mindestens 30 bis 45 Minuten.
Die Trainingsintensität ist optimal, wenn Sie gerade noch sprechen können und sich wohlfühlen.
Sie können die Trainingsintensität über die Herzfrequenz steuern:
Trainingspuls 170 minus Lebensalter
(auf dem Fahrrad und im Wasser 10 Schläge weniger).
Trainieren Sie 2- bis 3-mal pro Woche.

Wie kräftigen?

Nehmen Sie die abgebildete Ausgangsstellung ein.
Führen Sie die Bewegung langsam und mit gleich bleibender Geschwindigkeit durch.
Wechseln Sie die Bewegungsrichtung ohne anzuhalten.
Wiederholen Sie den Bewegungsablauf mindestens 20- bis 30-mal.
Absolvieren Sie 2 Serien mit Pausen von 1 bis 2 Minuten.

Übung 1
Gestreckte Beine abwechselnd im Sekundenrhythmus abheben.

Übung 2
Knie und Ellbogen im Wechsel diagonal zusammenführen.

Übung 3
Arm und Bein gegenseitig abheben.

Übung 4
Becken seitwärts heben und senken.

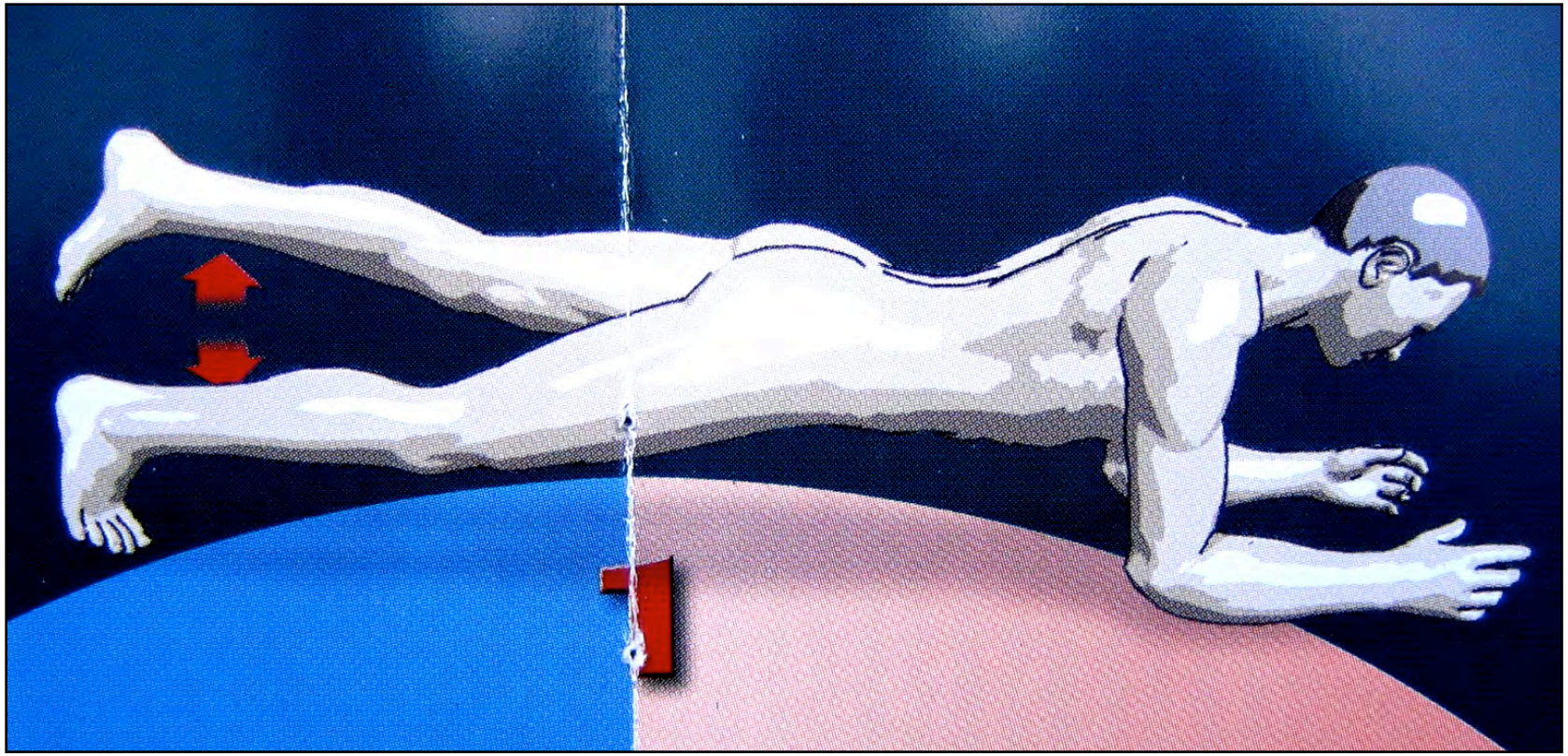
Übung 5
Becken heben und senken.

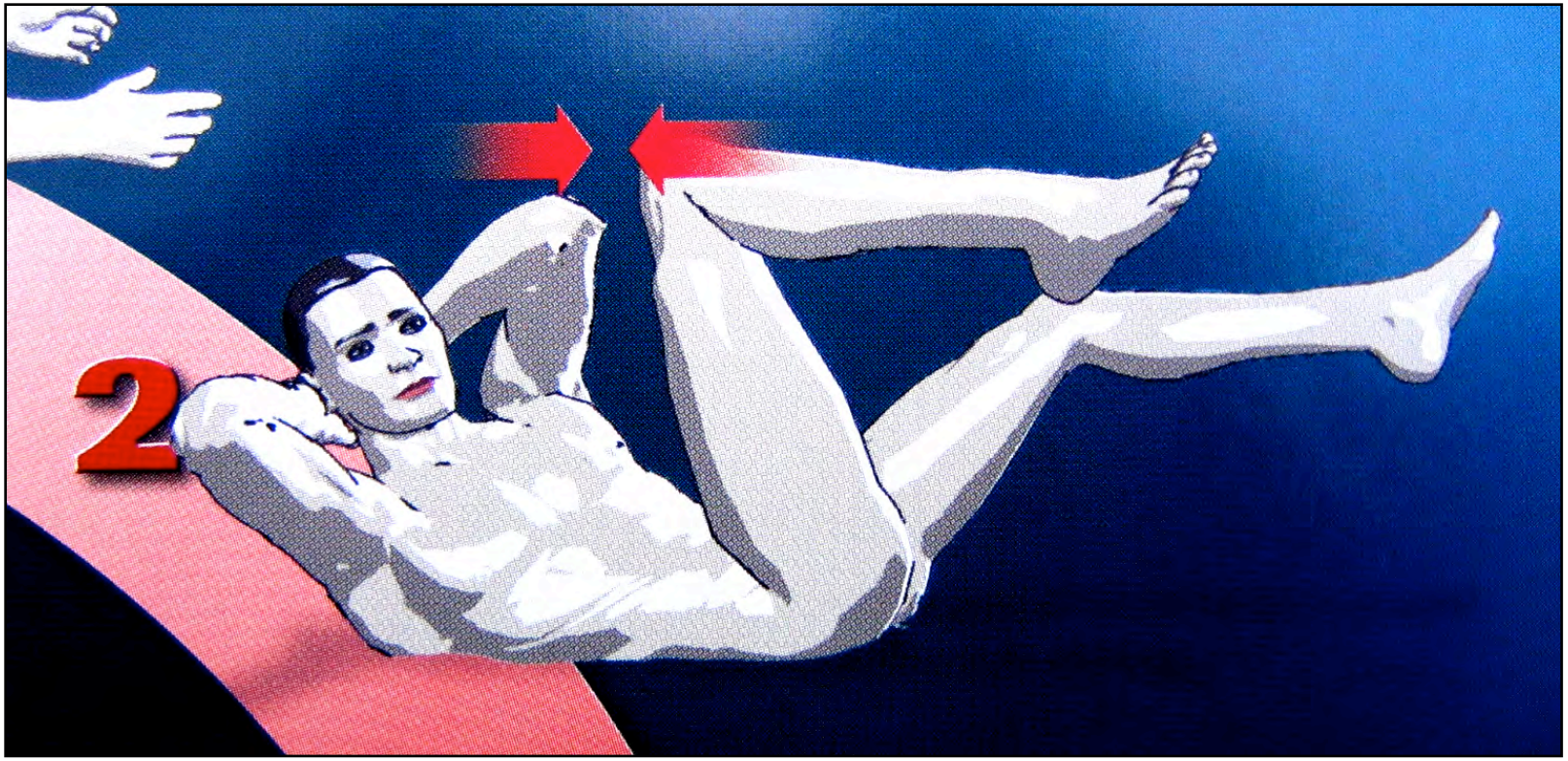
INFO

Risiko:
Sollten bei diesen körperlichen Belastungen Brustschmerzen oder Schwindelgefühle auftreten, lassen Sie sich vom Hausarzt untersuchen und beraten.

Material:
Gymnastikmatte als Unterlage

Literatur:
Dehn- und Kräftigungsgymnastik.
H. Spring et al., 6. Auflage. Thieme Verlag 2005
Theorie und Praxis der Trainingstherapie.
H. Spring et al., 2. Auflage. Thieme Verlag 2005

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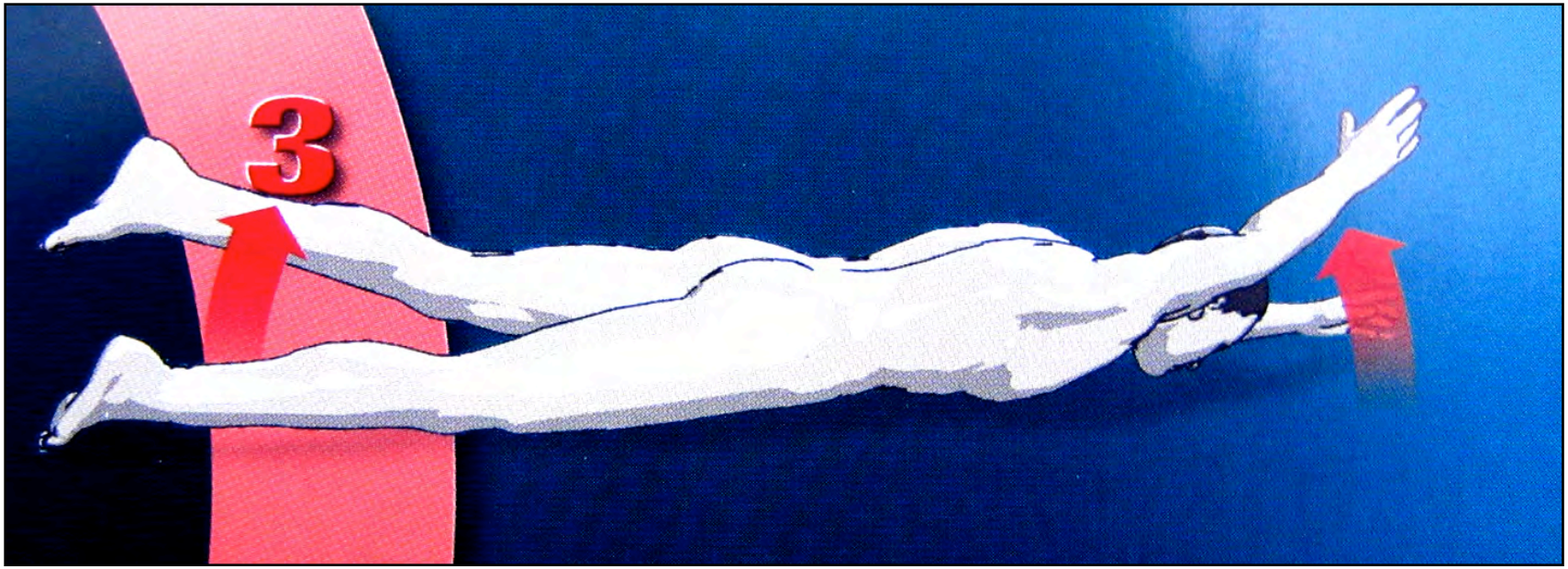
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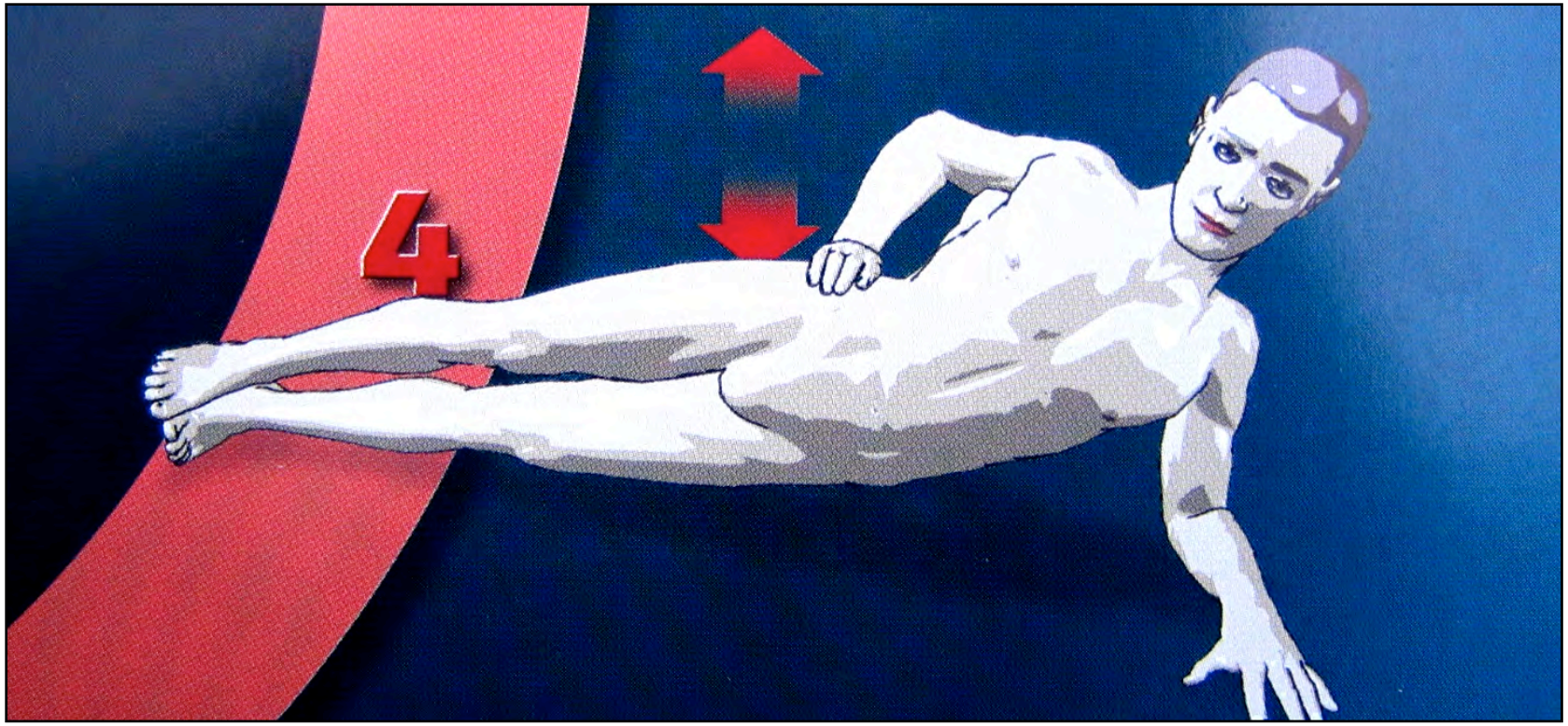
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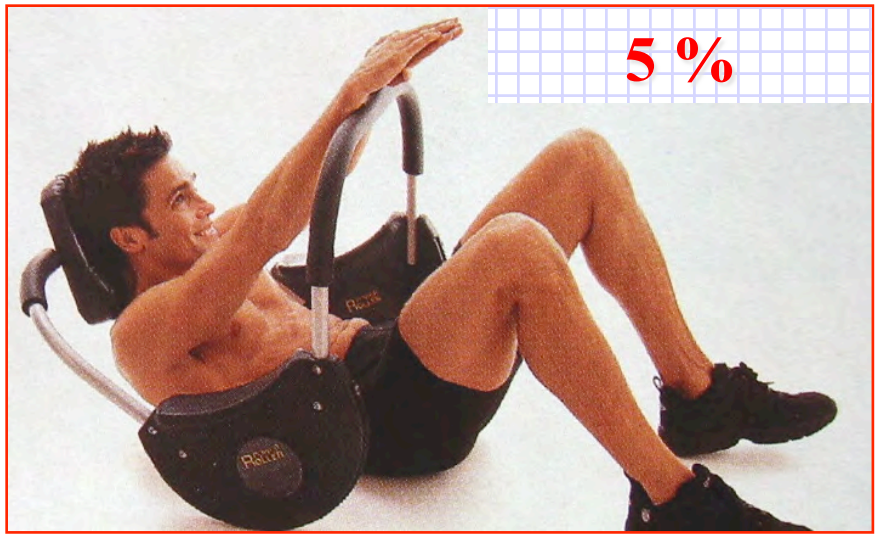
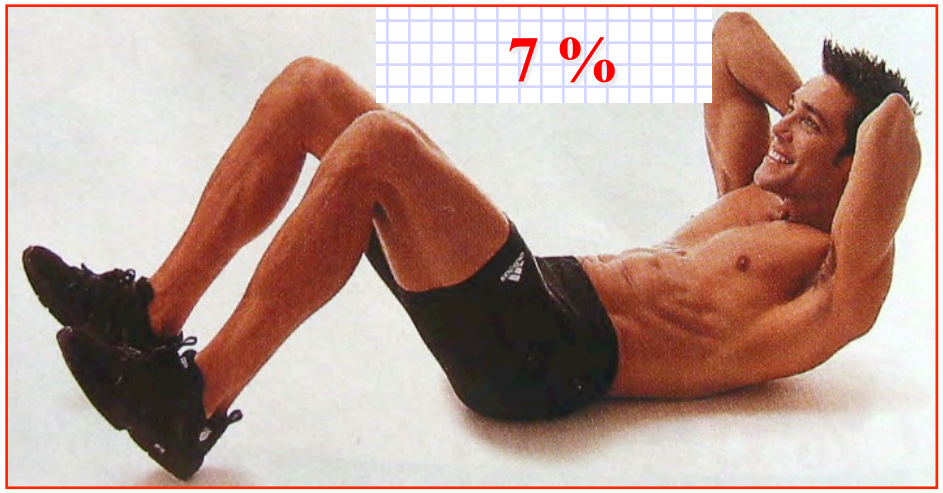
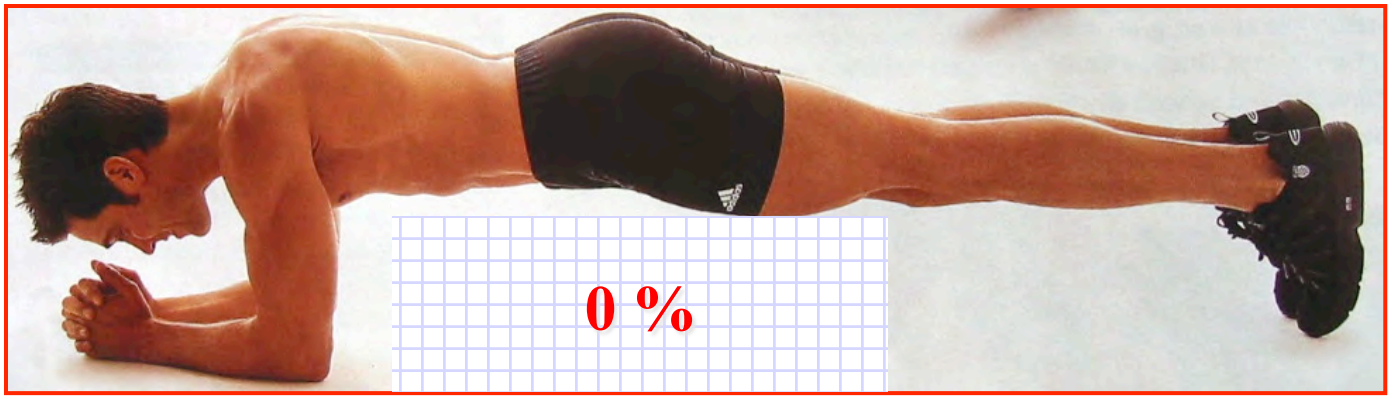
The best Crunches

Men ‘s Health 2/2002 (EMG Biomechanic San Diego State University)

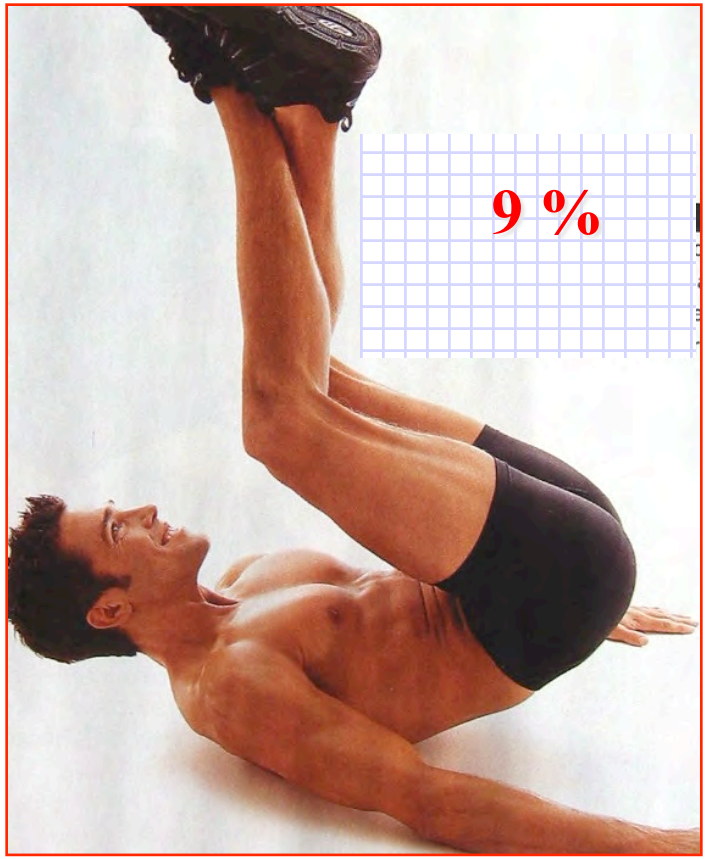
0 - 10 %

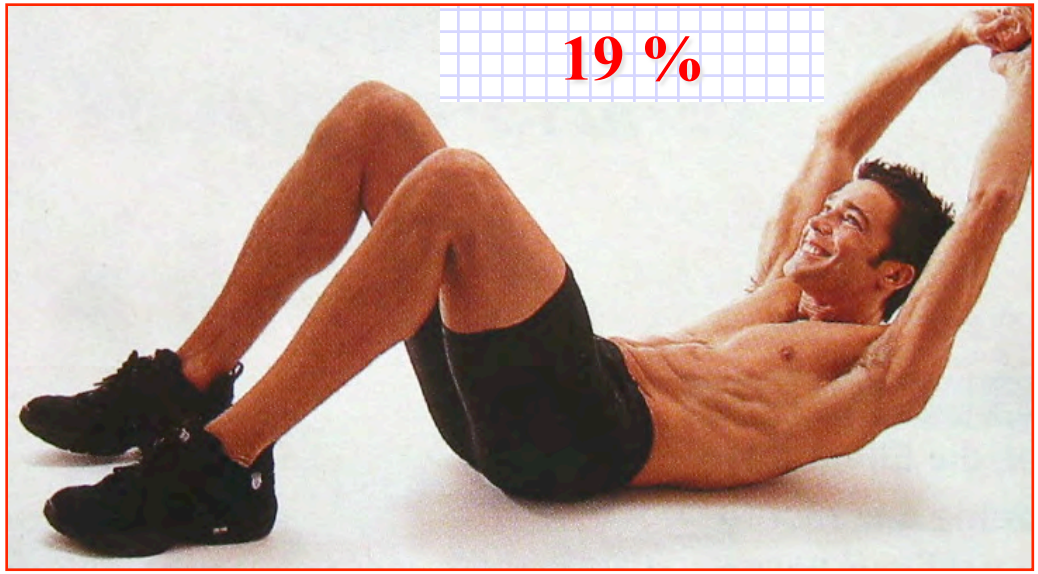




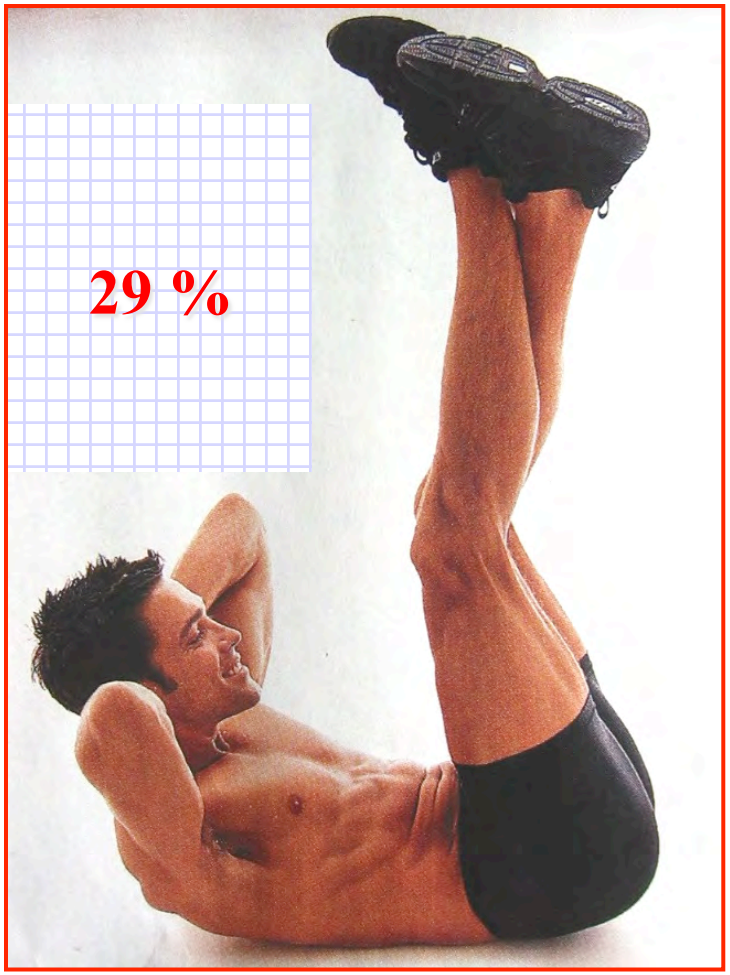


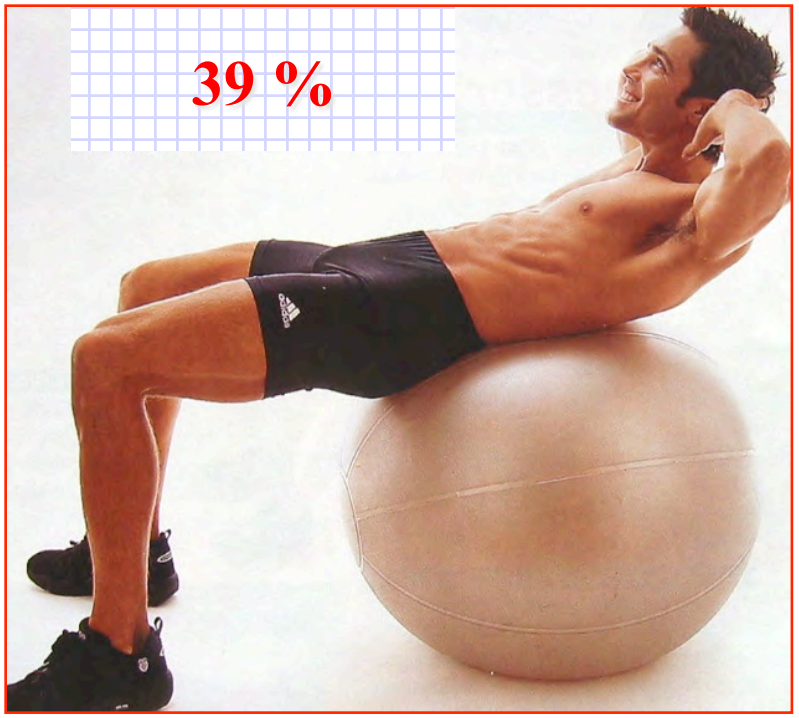
10 - 20 %

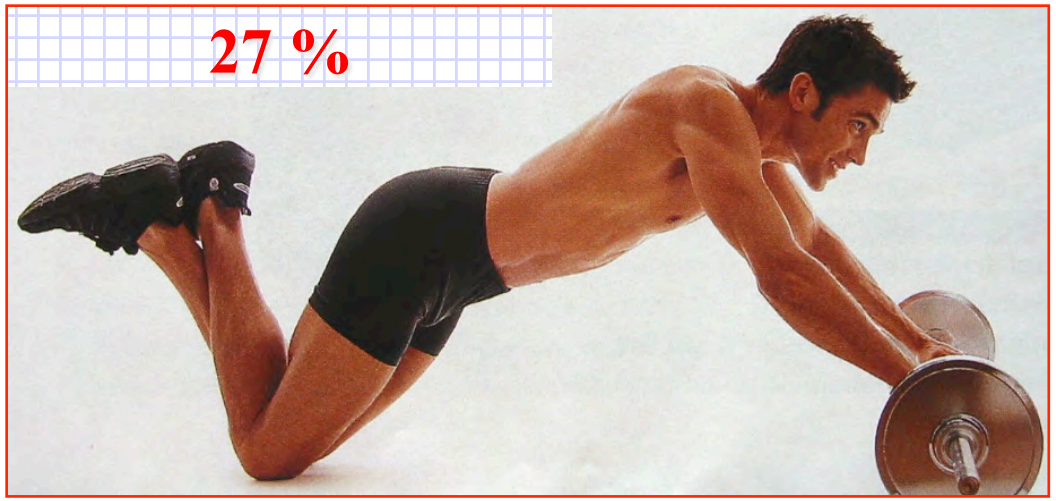




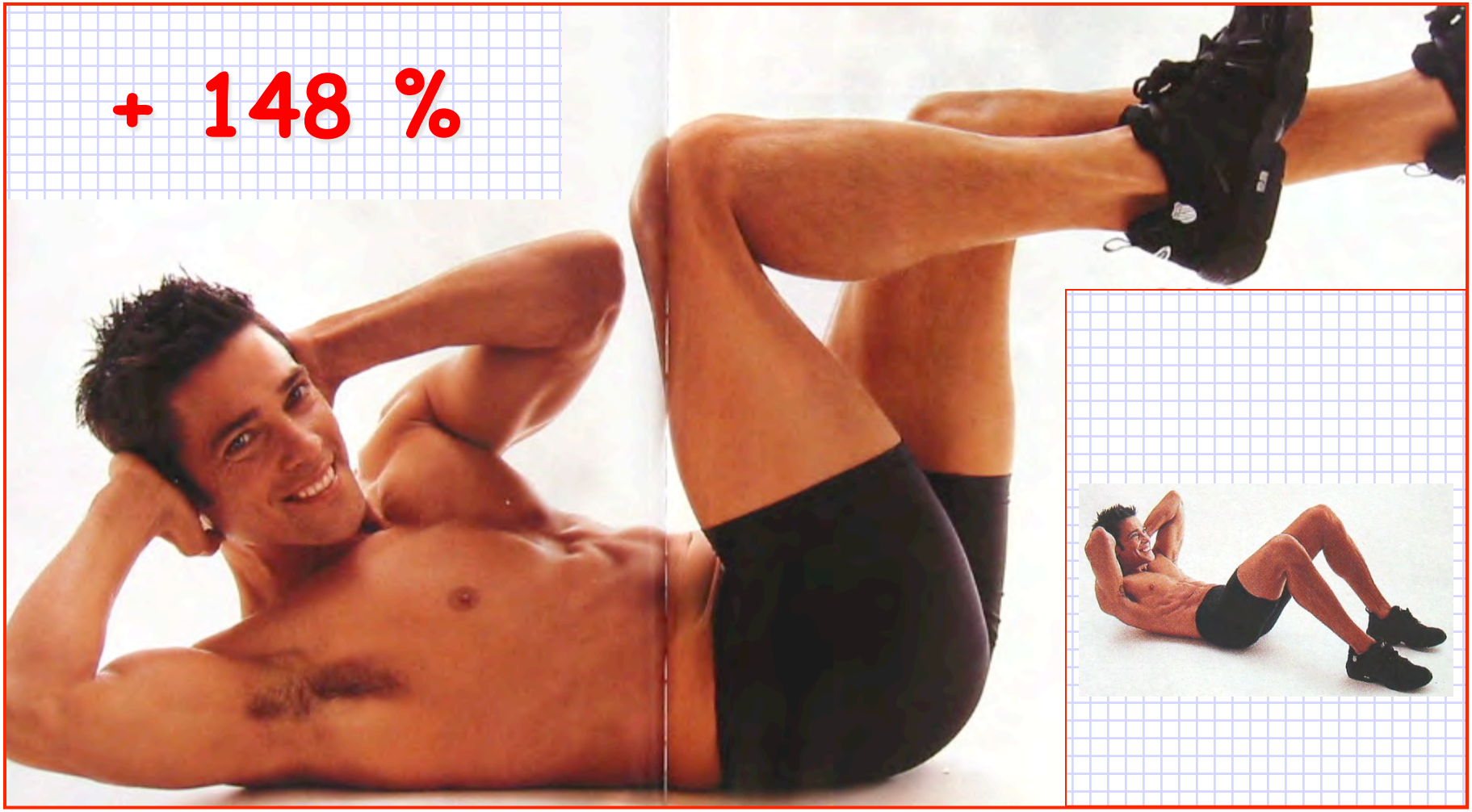
20 -40 %







The winner !

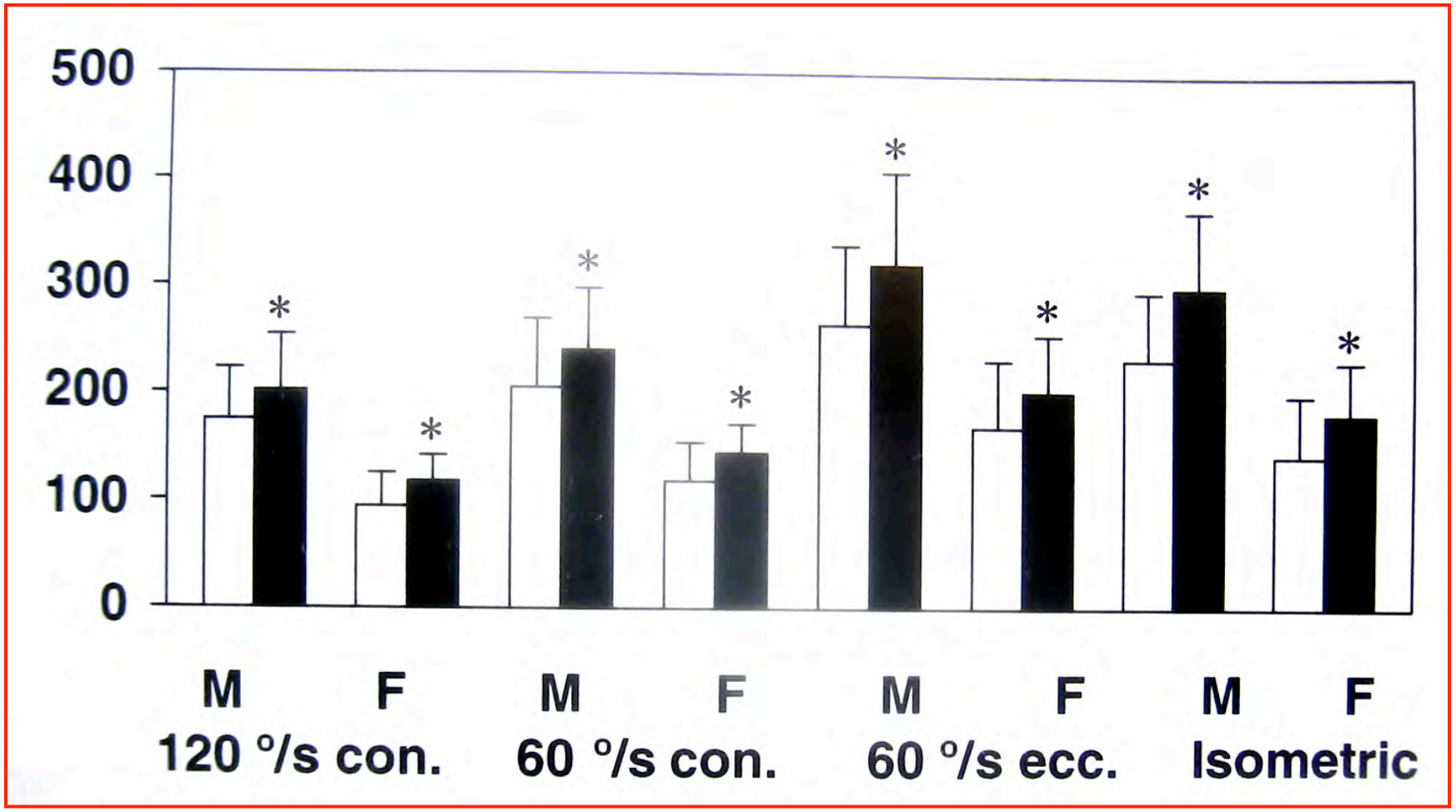


VOL. 10, NO. 4 2002 ISSN 0959-3020
IESCEE 10(4) 167–224

Isokinetics and Exercise Science

Gain in thigh muscle strength after balance training in male and female judokas

Hans-Christian Heitkamp[a,*], Frank Mayer[b], Mark Fleck[a] and Thomas Horstmann[a]
[a]*Clinical Medicine, Department of Sports Medicine, University of Tübingen, Germany*
[b]*Clinical Medicine, Department of Preventive and Sports Medicine, University of Freiburg, Germany*


500
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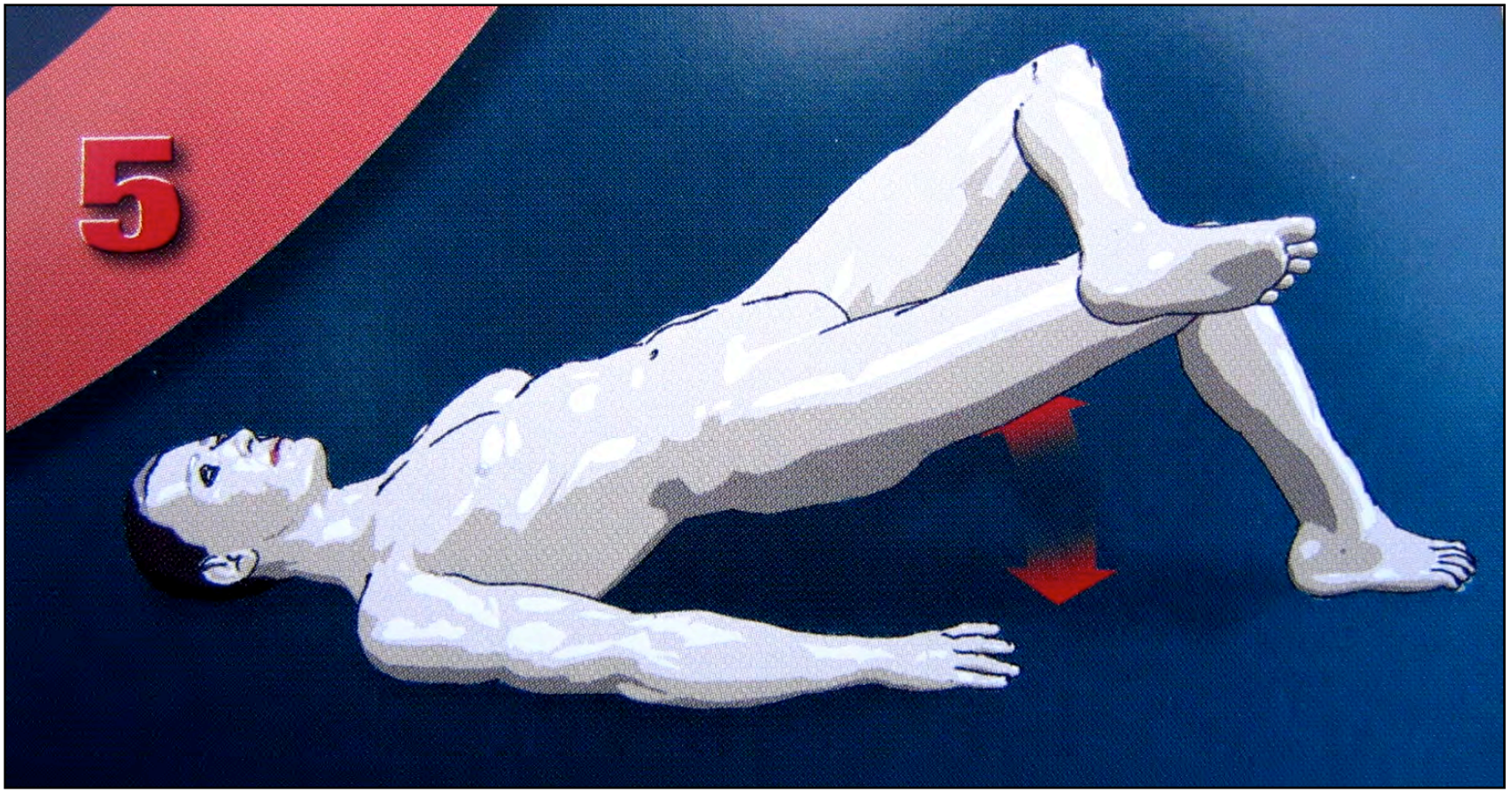
F
M
F
M
F
M
F
120 °/s con.
60 °/s con.
60 °/s ecc.
Isometric

swiss olympic medical center

25.5.2005

high altitude medical research
Muztagh Ata 7546 m, 7.7.2005
www.swiss-exped.ch

Highest ski mountain of the world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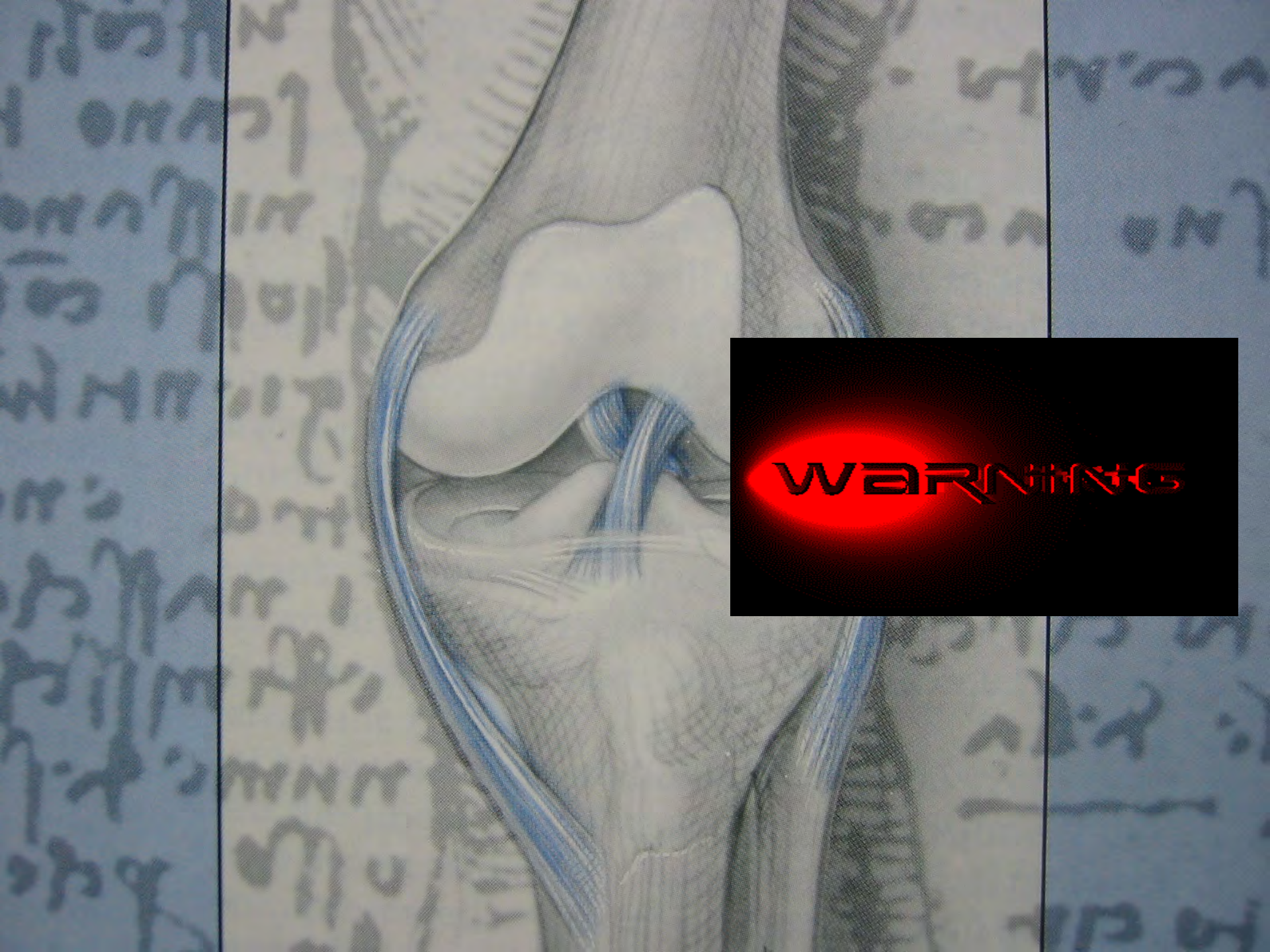

WARNINGS

swissski
100 jahre ans anni onns

Muri b. Bern, 4. Januar 2005

Swiss-Ski teilt mit:

Didier Cuche im Training gestürzt
Kreuzbandriss am rechten Knie

Didier Cuche (30, Nationalmannschaft) hat sich heute im Riesenslalomtraining in Adelboden/BE am rechten Knie verletzt. Er zog sich einen isolierten Kreuzbandriss zu. Die Saison ist damit für den Neuenburger zu Ende. Wann und wo die Operation erfolgt wird noch abgeklärt und zu einem späteren Zeitpunkt mitgeteilt.

Swiss-Ski

Kristina Schneider, Kommunikations-Assistentin
www.swiss-ski.ch

Für weitere Informationen: *Kristina Schneider, Tel. 079 / 642 62 85*

low back pain ?

Low Back Pain in Professional Golfers

The Role of Associated Hip and Low Back Range-of-Motion Deficits

Vijay B. Vad,[*†‡§‖] MD, Atul L. Bhat,[a] MD, Dilshaad Basrai,[b] MSPT, Ansu Gebeh,[c] MD, Donald D. Aspergren,[d] DC, and James R. Andrews,[‖e] MD

TABLE 1
Range-of-motion Data for PGA Golfers During the Buick Classic PGA Tour Event 2001 (N = 42)

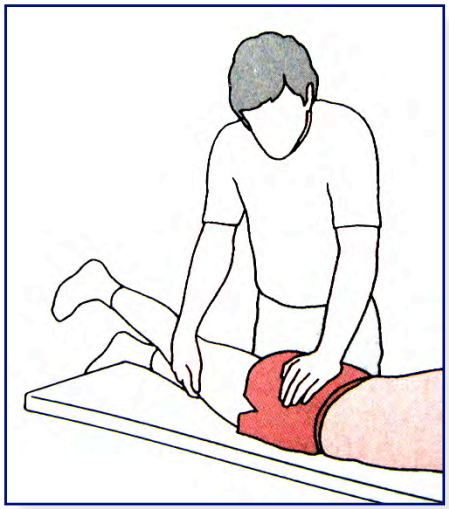
	Symptomatic (n = 14)	Asymptomatic (n = 28)
Finger-to-floor distance (cm) (P = .09)	14 ± 1.4	11 ± 1.3
Lumbar extension (degrees)	15.7 ± 1.3*	24.3 ± 1.4
FABERE's distance (cm) (P = .08)		
Lead	16.8 ± 1.3*	9.3 ± 1.5
Nonlead	6.7 ± 1.3	6.8 ± 1.2
Hip internal rotation (degrees) (P = .11)		
Lead	11.8 ± 1.2*	16.9 ± 1.3
Nonlead	19.9 ± 1.7	19.7 ± 1.6

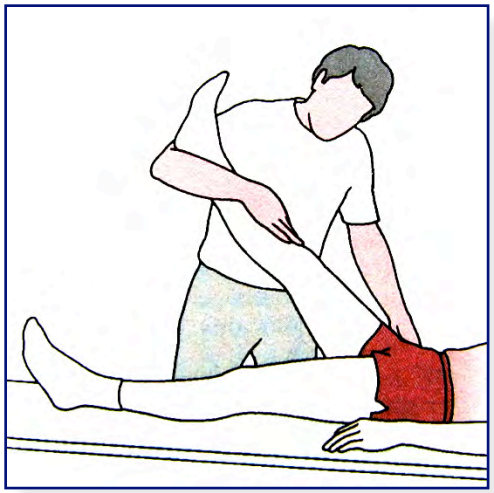
Data presented as mean ± SD. PGA, Professional Golfers Association; *P < .05, significant.

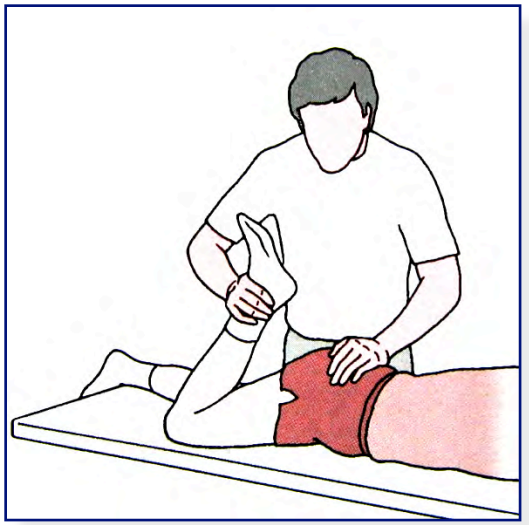
CONCLUSIONS

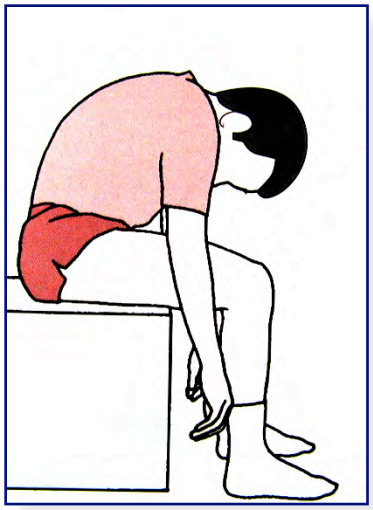
Decreased lumbar spine extension, lead hip internal rotation, and lead hip FABERE's distance correlated to a history of low back pain in professional golfers. Lumbar spine flexion or measurements in the nonlead hip did not have a statistically significant correlation to low back pain. Prospective studies that demonstrate a decrease in the incidence of low back pain following an improvement in these measurements may further validate these findings.

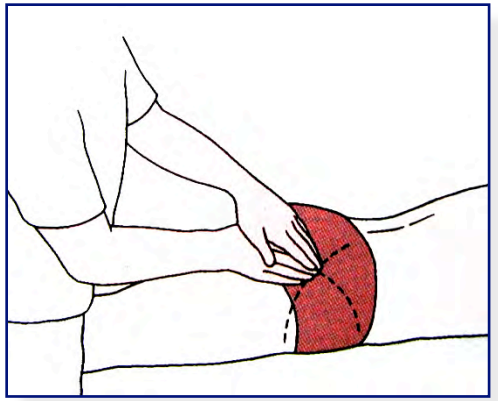
Muscle testing





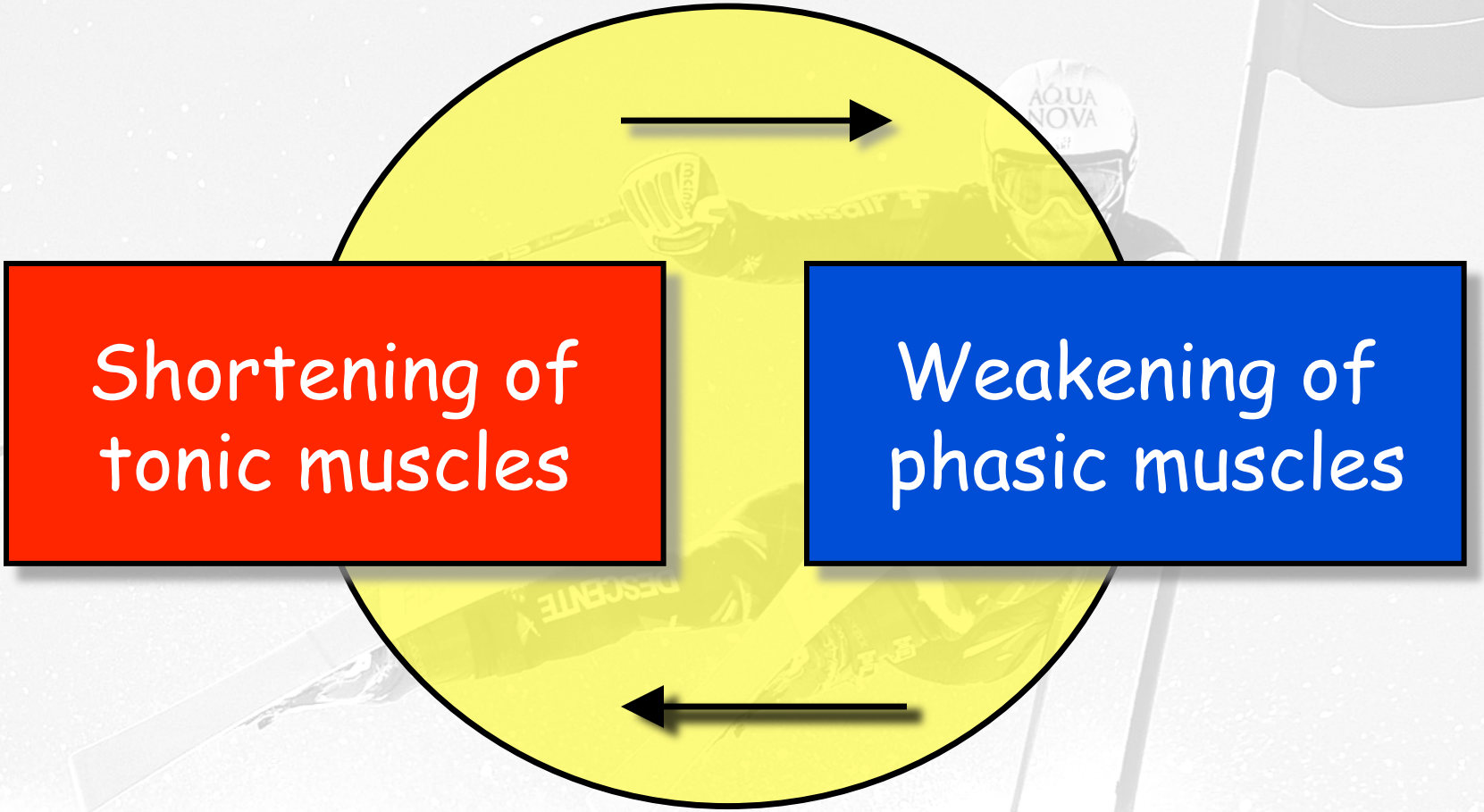






muskular imbalance?

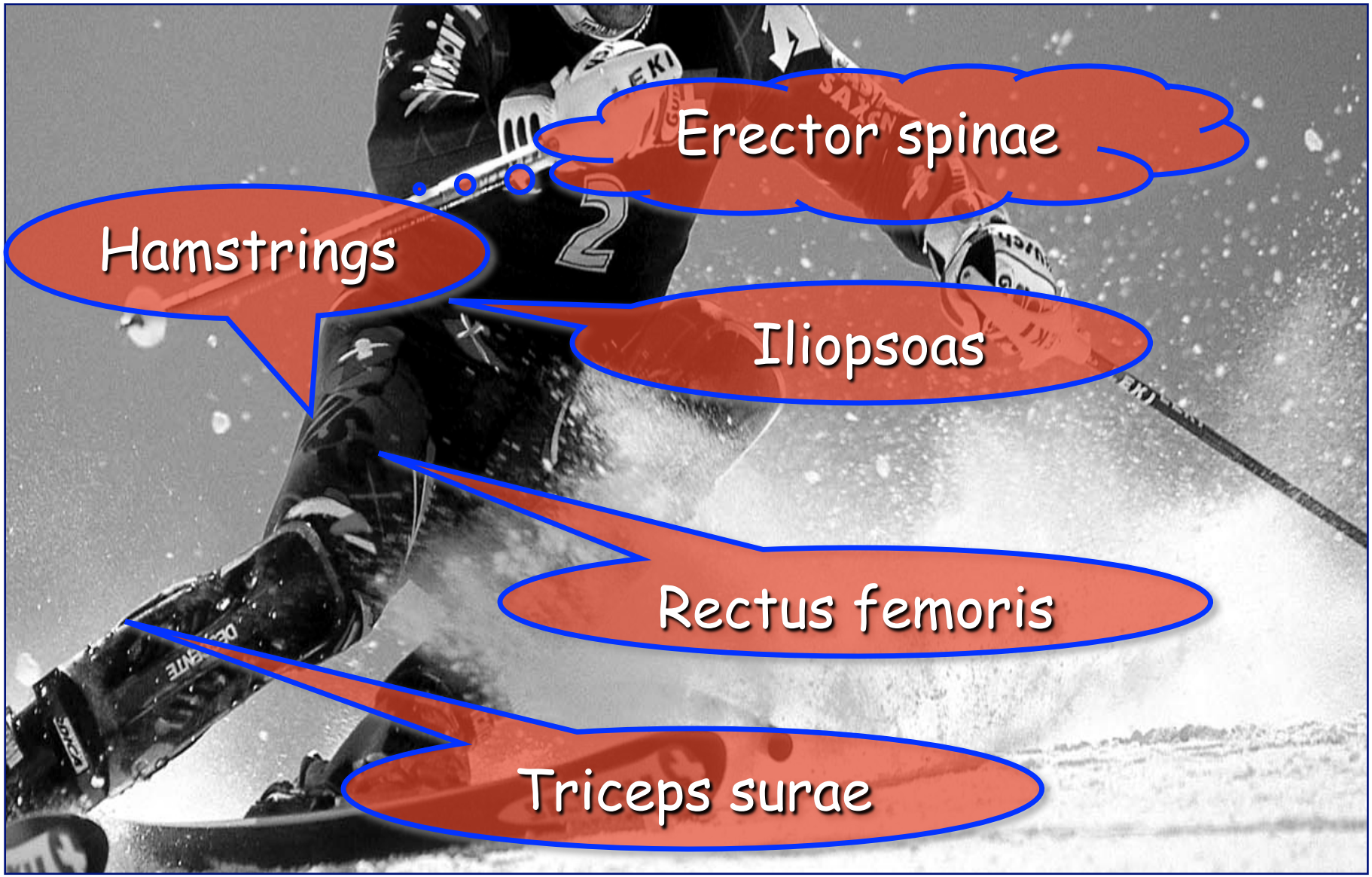
Muscular imbalance



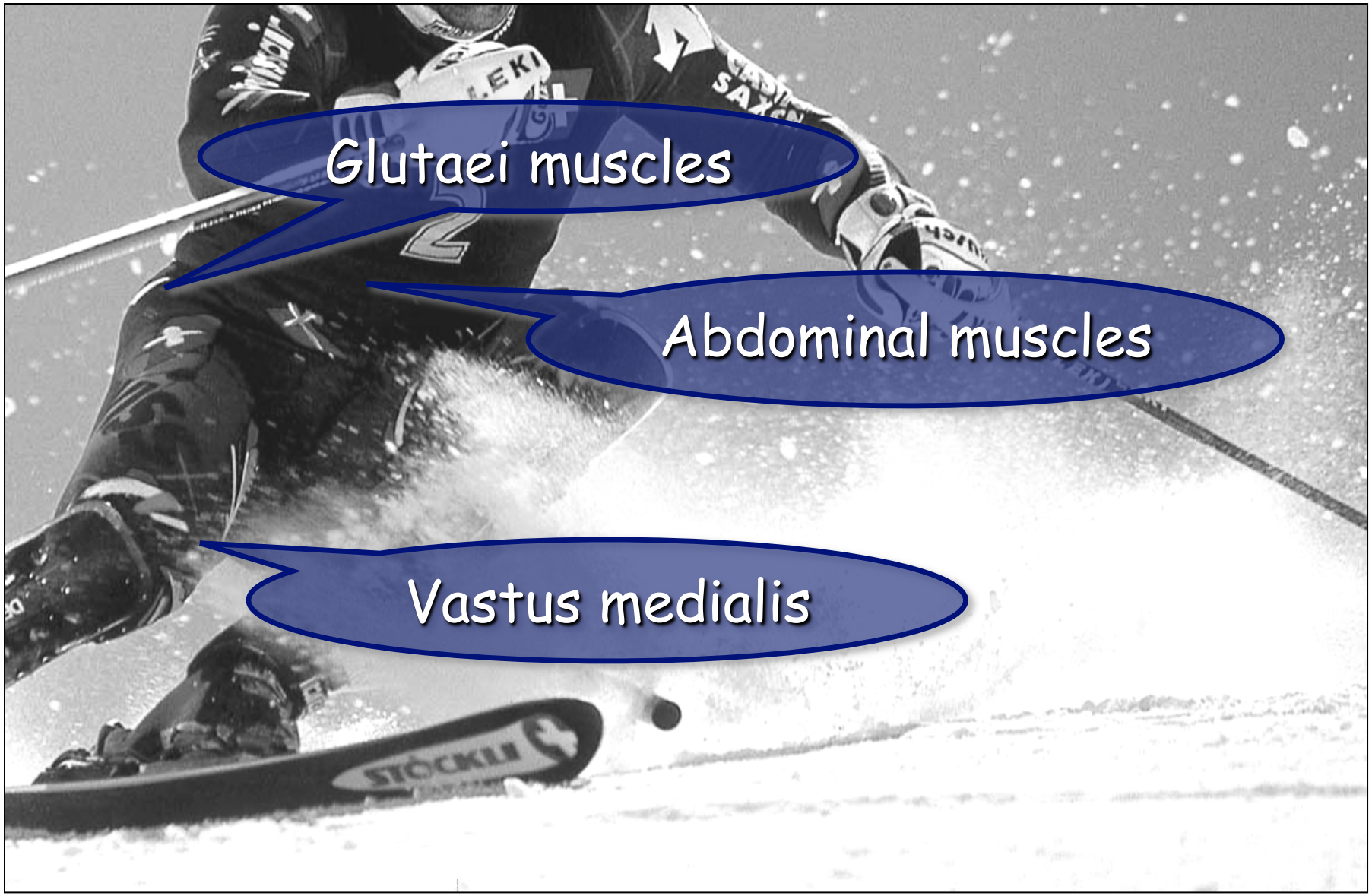
Muscular imbalance

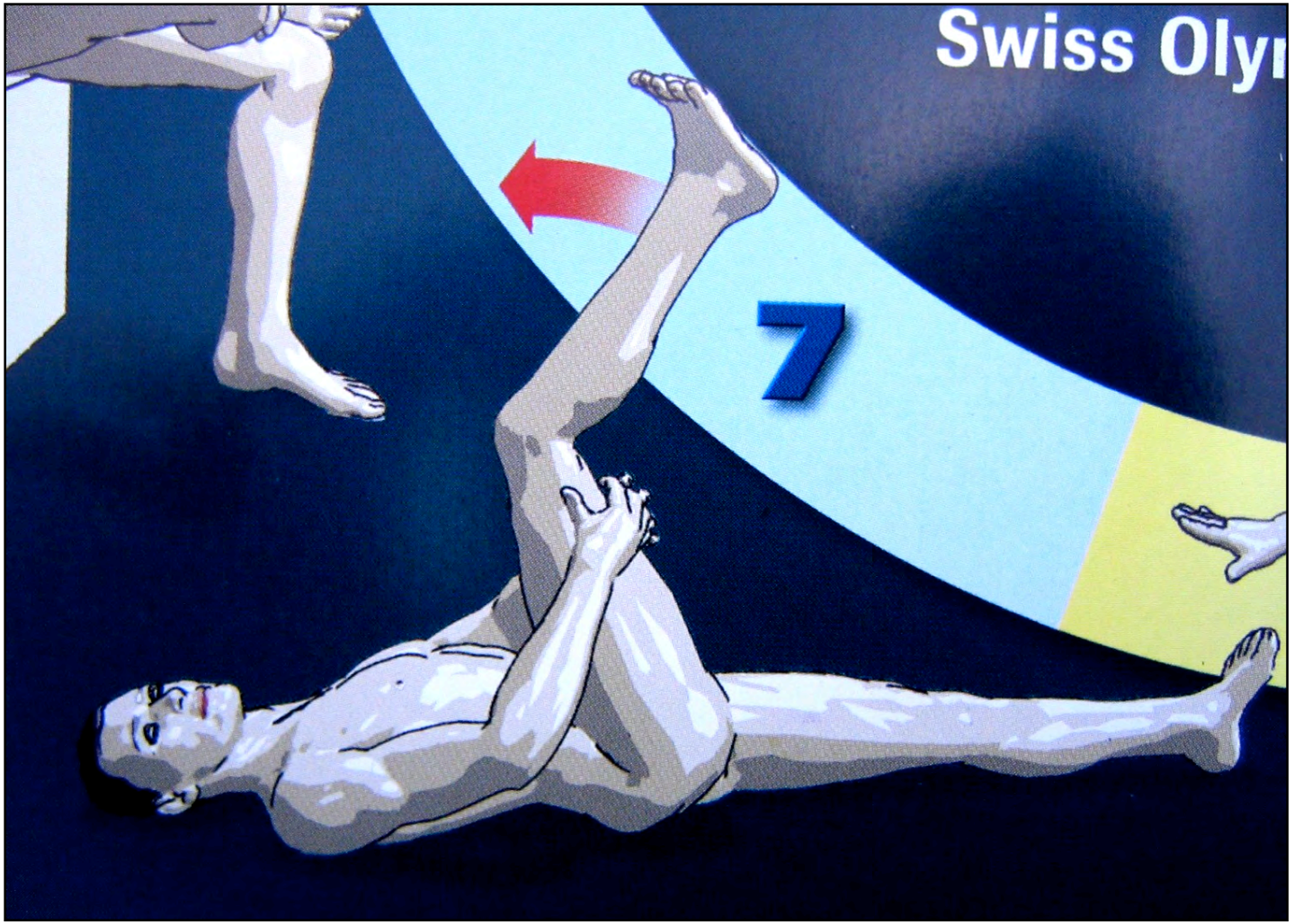
Muscular imbalance reduces the exercise tolerance of the locomotor apparatus. Regional muscular imbalance puts increased stress on joints and spinal segments, causing painful overloading of the affected muscles and tendons.

Tonic muscles



Phasic muscles

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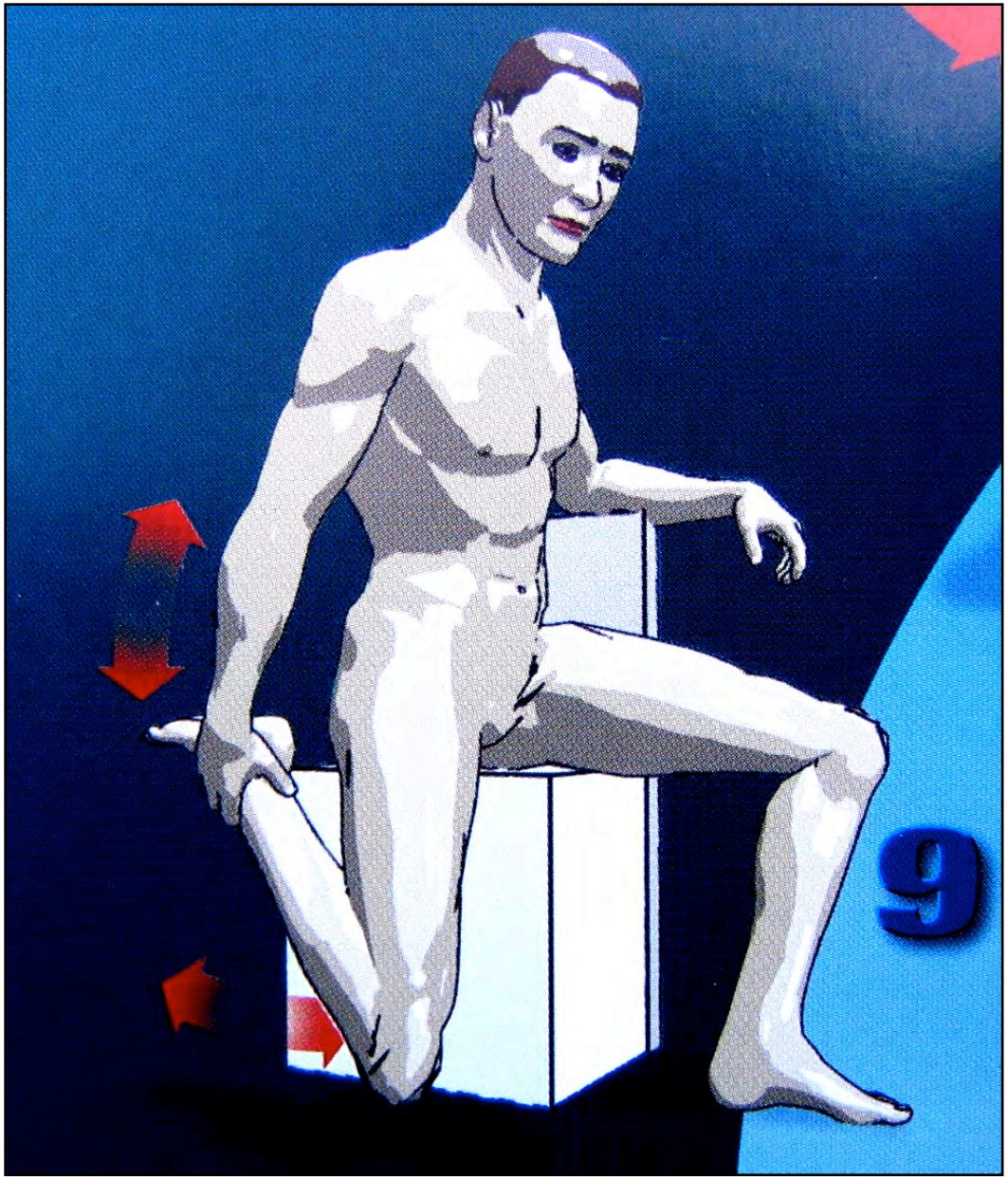
8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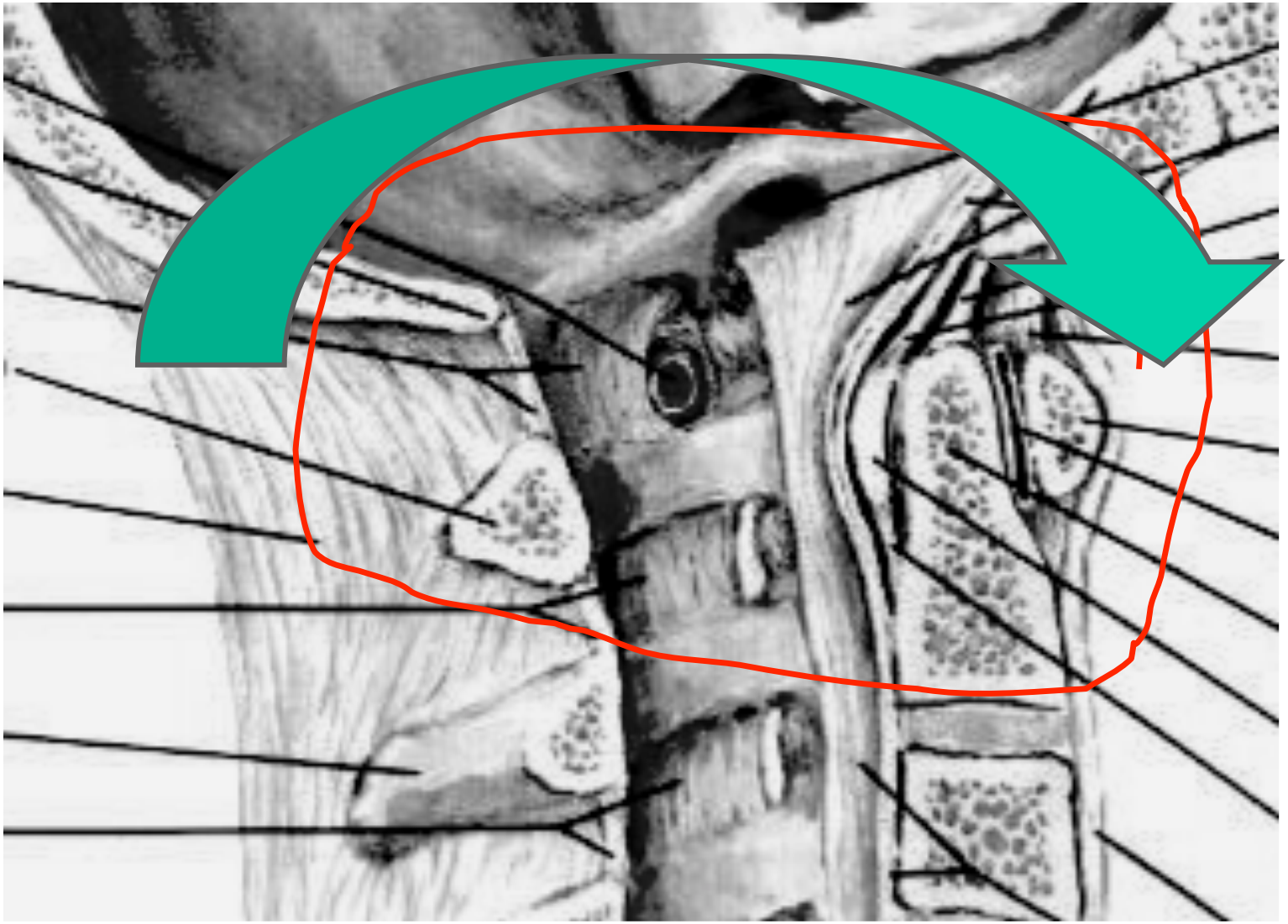
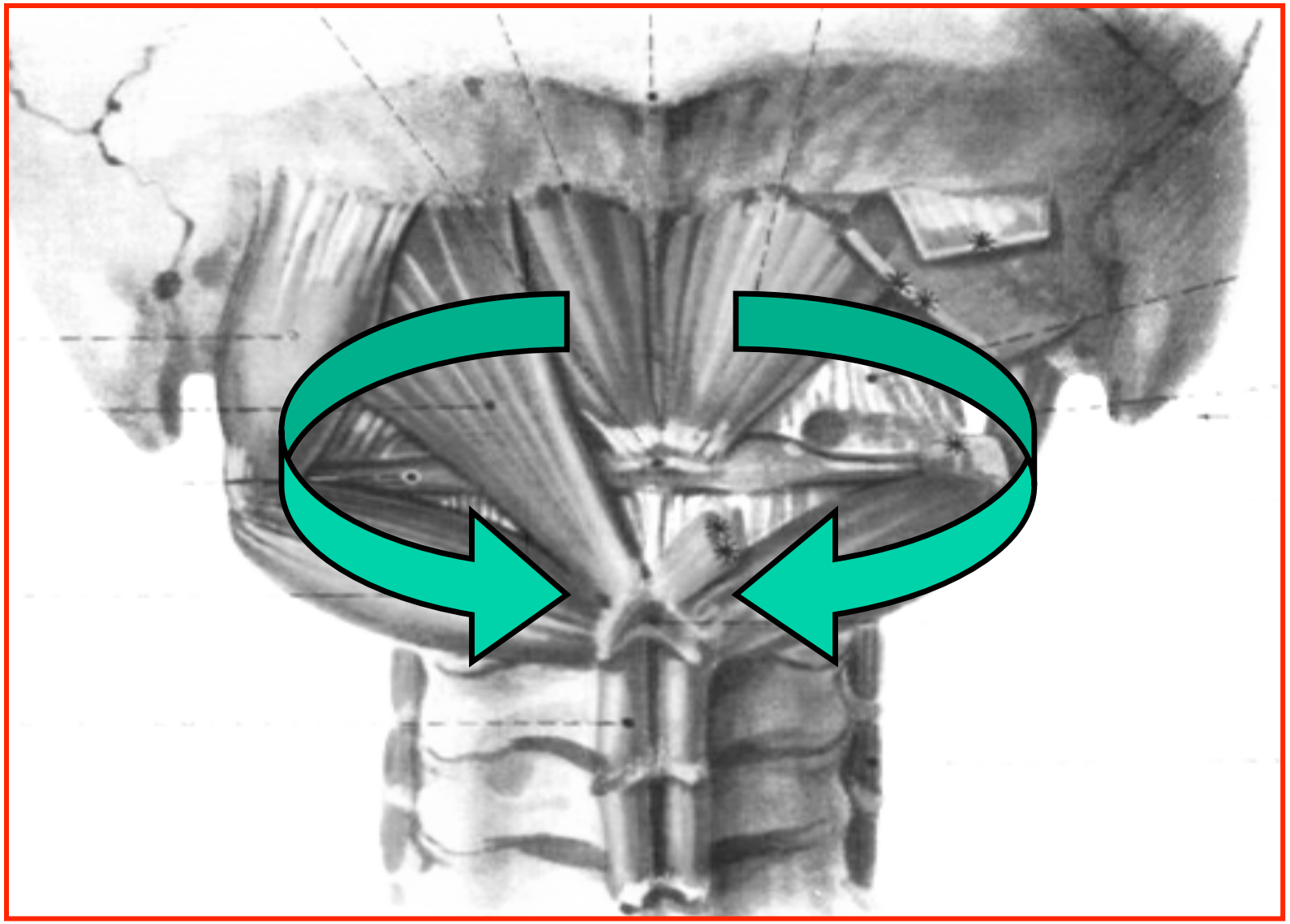
10

Atlanto-Occipital and Atlantoaxial Joints



Atlanto-Occipital and Atlantoaxial Joints



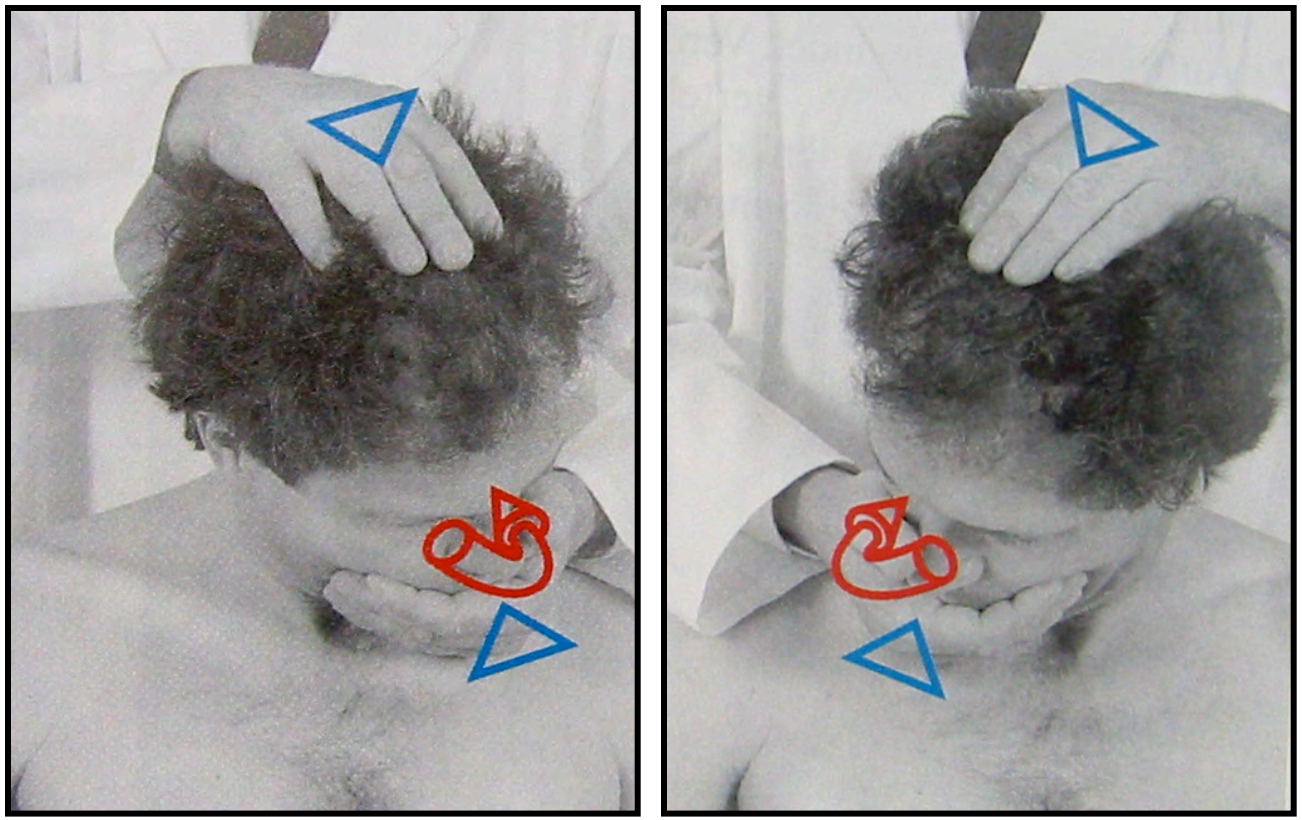
Center of the body

forward - backward

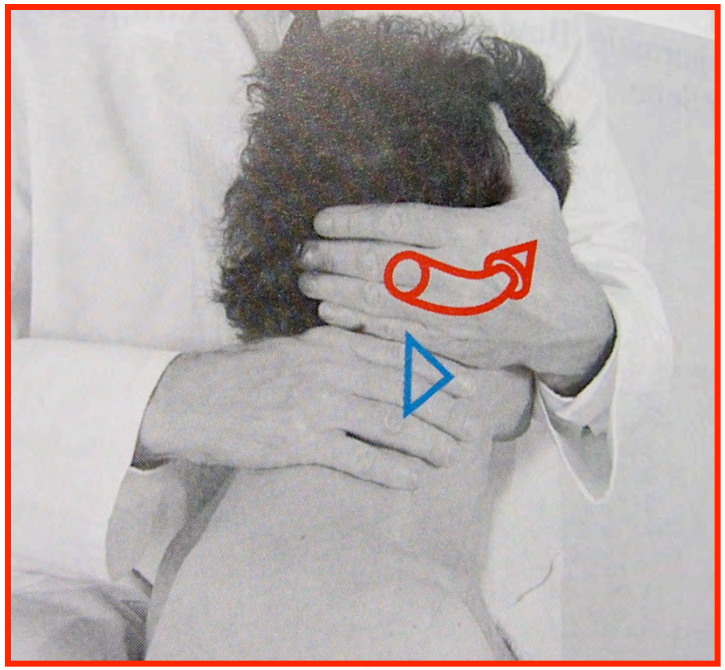
Center of the body

inside - outside

Functional examination of the occipital-atlanto-axial joints (C0 – C2)

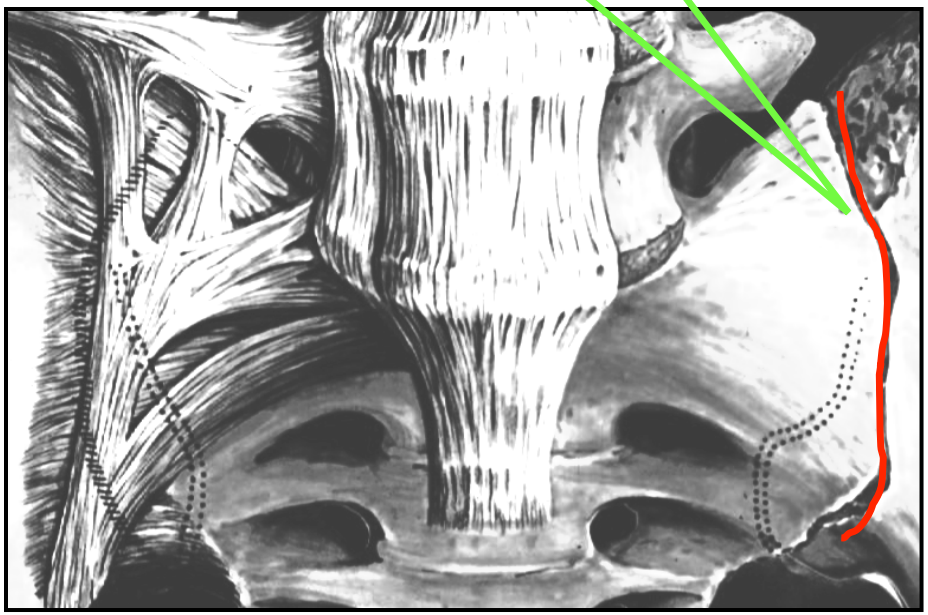


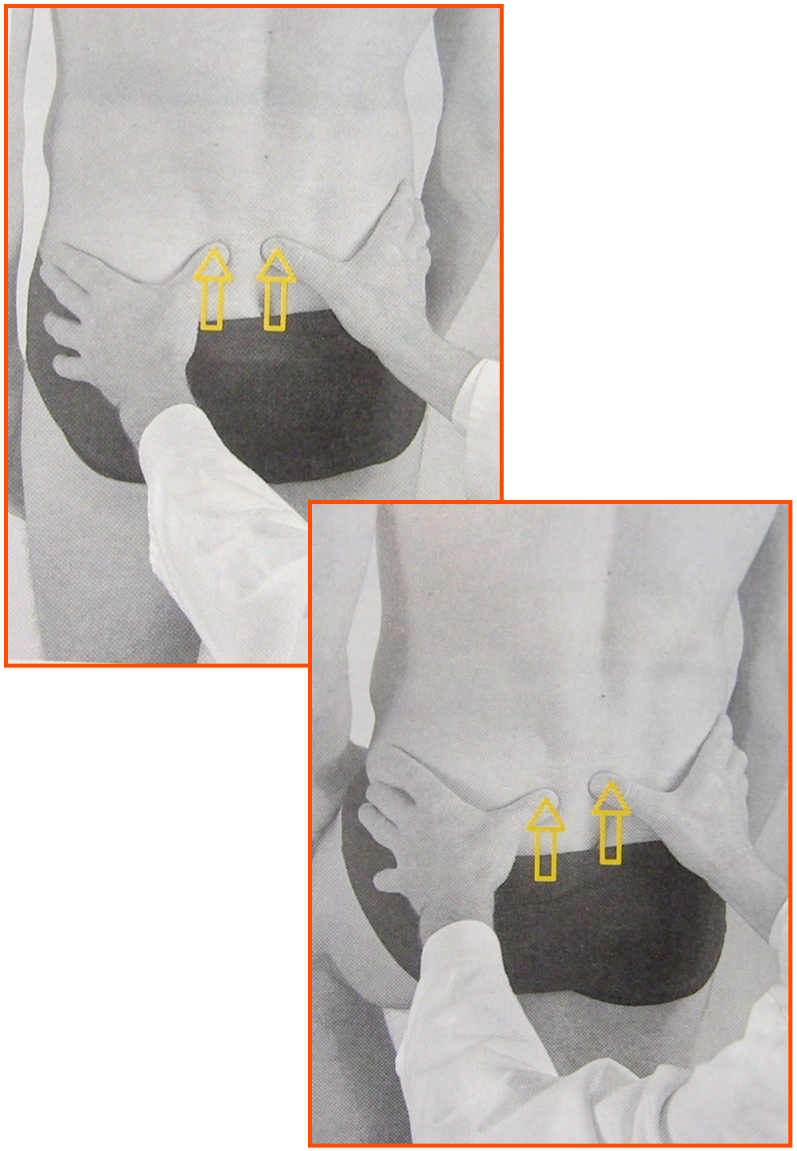
Mobilisation C0 – C2



Sakroiliac joints

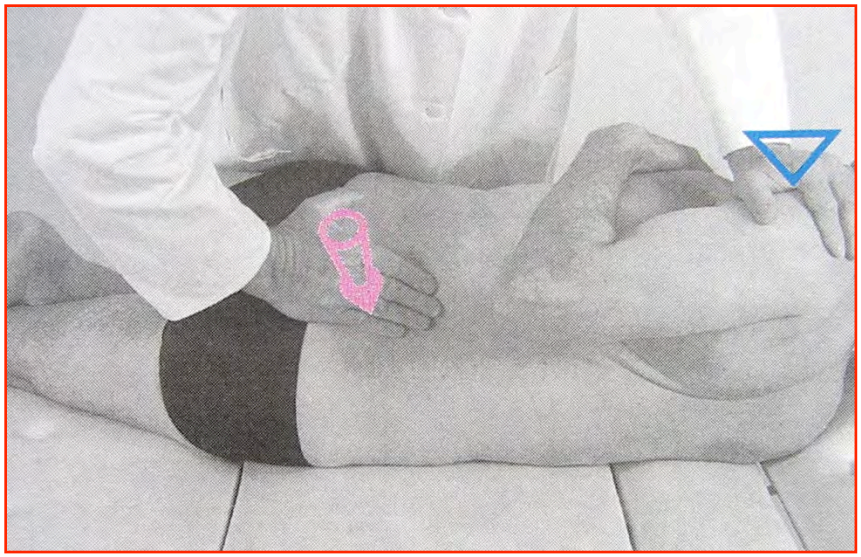
Functional examination

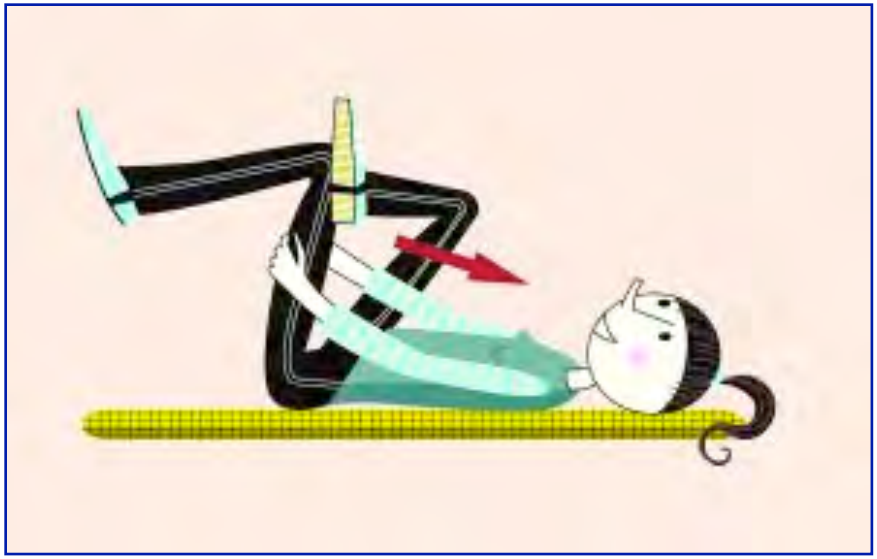




Spine Test

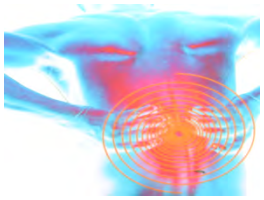
Manipulation sacroiliac joint
Stretching piriformis muscle





Take home message

- ✓ The young athlet has to learn the stretching techniques correctly and has to practice regulary.
- ✓ The medical team (MD, PT) has to be instructed in Manual Medicine and Therapy.
- ✓ Muscle testing and functional examination of the joints are a must in the physical examination of athlets.

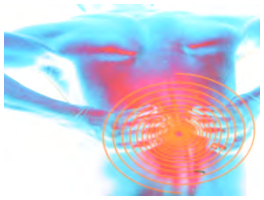


FEDERATION INTERNATIONALE DE SKI
INTERNATIONAL SKI FEDERATION
INTERNATIONALER SKI VERBAND

FIS MEDICAL GUIDE

2004/2005

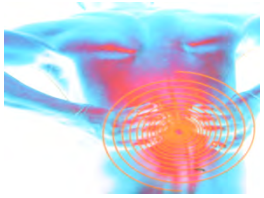
Common Back Pain Conditions



All athletes are susceptible to back injury. In skiing, few athletes make it through an entire season without experiencing some form of back pain. A healthy back must be associated with flexibility and strong core strength as well as a balance between the axial or core muscles and the phasic muscles (which include the hamstrings, quadriceps, and biceps of the lower extremities. Axial muscles are prone to weakness and phasic muscles are prone to shortening which can upset the balance and cause problems. The chief function of the back is not only to house and support the spinal cord, but it is also to establish the power platform consisting of the core and pelvis muscles which must be stabilized to exert maximum strength of the lower extremities. It is important for athletes who require power and strength in their lower extremities to have a stable and healthy POWER PLATFORM.

Skiers subject the lower back to greater mechanical stresses than other parts of the back. The pounding experienced through repetitive jamming such as in slalom or downhill skiing results in excessive forces across the lower lumbar and pelvis. The supporting muscles of the spine as well as the abdominals work dynamically to protect this significant compression load as well as torsion and sheer forces.

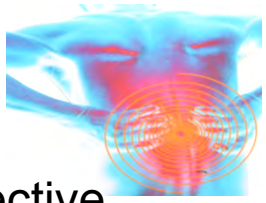
Back pain in skiers can be secondary to minor sprains and strains, facet joint injury, malalignment syndromes, or acute discs. The weakened core or tightening of the hamstrings (phasic muscles) can result in an imbalance that predisposes the athlete to these injuries.



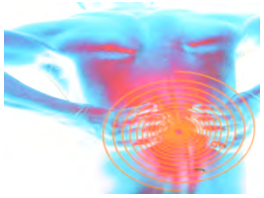
Lumbar ligament strains and muscle strains:

These are common injuries associated with a specific event such as inappropriate lifting, overuse, or a recent fall. They originate from microscopic tears of the muscle ligaments in the area where the pain radiates from. Here the small ligaments and muscles are strained. The severity of these injuries depends on the number of fibers affected. Usually the athlete has a specific event that he recalls which produces the problem. Treatment consists of local modalities supplied by physiotherapy to decrease inflammation, swelling and associated pain and muscle spasm. Anti-inflammatories are appropriate as well as analgesics. Appropriate resting then progression through return to sport program which includes return of range of motion, normal flexibility, and return of strength. These injuries are characterized by localized pain which has a specific mechanism of injury and no neurological involvement.

Facet joint syndrome:



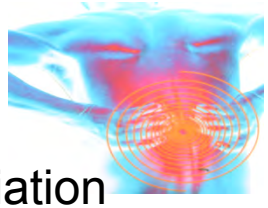
This represents 10-15 percent of back injuries when seen on a retrospective study on Canadian athletes. Facet joint syndrome occurs when the facet joints connecting the vertebrae become strained or inflamed after undergoing extreme forces. The forces can either be in the form of an extension injury or compression type injury. Again, this injury is characterized by localized pain with only moderate radiation. The surrounding muscles are in spasm. Characteristically there is loss of movement in the facet that is examined. There is loss of movement as well as associated pain in the facet that is examined. It is differentiated from a disc as there is no radicular pain. There is no associated radicular numbness, tingling, or pain. The history again produces evidence of a mechanism which would compress or strain the facets with torsion causing the syndrome. The examination shows a normal musculoskeletal examination of the extremity with no neurological findings. There is localized loss of range of motion usually at a specific level which identifies the facet. Treatment consists of physiotherapy to decrease the muscular spasm and anti-inflammatories. The therapist that has skills in mobilization of the facet joints is also useful as the facet decreases in inflammation.



Malalignment Injury:
Malalignment is the most common injury associated with back pain seen on ski teams. The alignment of the lower back, pelvis and extremities must be symmetrical to avoid abnormal stresses resulting in pain syndromes. Malalignment syndromes are frequently seen in athletes that sit for prolonged periods of time with body rotation, seen in athletes that jump from one leg to the other repetitively or have stress distributed throughout their legs and lower pelvis one leg at a time. It is also common in athletes with poor cone or axial strength or increased tightening of the phasic muscles as mentioned above. This results in the imbalance and jamming of the SI joint producing the low back pain.

Characteristically, athletes complain of a low back pain which can be central or lateral usually centered on the sacrum or SI joints. The pain can be classified from level 2 to level 10. The pain characteristically has no specific predisposing injury although the above-mentioned characteristics are usually elicited from the history. There is radicular pain into the buttocks and occasionally down to the knee level but there is never pain radiating below the knee. Characteristically, the pain when severe can be associated with marked muscular spasm which can radiate up to the lower thoracic area. In these situations the pain is present sitting and lying. The pain frequently mimics sciatica and can be difficult to distinguish from an acute disc on occasion.

Acute disc syndrome:



This syndrome is characterized as acute severe lower back pain with radiation to one extremity. The pain usually radiates to the foot. The exact radiation will help determine which disc is involved. Neurological examination shows appropriate reflex changes and weakness of muscles. Treatment involves stabilization, ensure cord continuity, anti-inflammatories, and analgesics and when appropriate transferring the patient back to his home country. Rehabilitation includes corrective realignment where required and a progressive stretching and strengthening program.

When traveling for long periods in a car or a plane, skiers should use back support or place a rolled up towel behind their lower back. Lifting heavy suitcases is all part of ski travels and also predisposes the athlete to injury. Avoiding undue back stresses by keeping the back erect and keeping the knees bent and lift with the legs.

Skiers must also reduce their potential for back injury by taking preventative measures. Ensuring proper warm up before all activities, ensure adequate stretching of the phasic muscles and good three-dimensional core strength of the axial muscles.

FIS ANTI-DOPING ACTIVITIES

Dublin 2005

Sarah Lewis
Secretary General
International Ski Federation

The International Ski Federation (FIS)

- 103 National Ski Associations
- 5’000 FIS calendar competitions per year
- 24’000 active athletes registered with FIS through National Ski Associations
- 6 FIS Disciplines (Alpine, Cross-Country, Ski Jumping, Nordic Combined, Freestyle, Snowboard) on programme of Olympic Winter Games

Fundamental Rationale for the Code and FIS Anti-Doping Rules

Anti-doping programmes seek to preserve what is intrinsically valuable about sport:

- "the spirit of sport";
- the essence of Olympism;
- how we play true;
- the celebration of the human spirit, body and mind

Doping fundamentally contrary to spirit of sport

- Ethics, fair play and honesty
- Health
- Excellence in performance
- Character and education
- Fun and joy
- Teamwork
- Dedication and commitment
- Respect for rules and laws
- Respect for self and other participants
- Courage
- Community and solidarity

FIS – Commitment to Doping-Free Sport

- The International Ski Federation (FIS) is one of the most **active** and **innovative** International Sport Federations in the very complex **fight against doping**
- FIS is strongly **committed** to the fight against doping, in order to offer to all Athletes and Participants in every discipline **fair** and **safe** competitions
- The International Ski Congress **approved** the World Anti-Doping Code on 4th June 2004 – **integrated** into FIS Rules since November 2003

FIS Rules & Regulations

- FIS Anti-Doping Rules **apply** to each member **National Ski Association** and each **Participant** by virtue of the Participant's membership, accreditation, or participation in FIS, its National Ski Associations, or their activities or Events.
- A National Ski Association must **guarantee** that all FIS registered Athletes **accept** the Rules of the FIS, including the FIS Anti-Doping Rules compiled in accordance with the World Anti-Doping Code.

FIS Rules & Regulations

- FIS Anti-Doping Rules 2005/2006
- FIS Medical Guide 2005/2006
- FIS Event Organiser Medical Support Recommendations 2005/2006

FIS Website/Rules&Publications/Medical&Antidoping

http://www.fis-ski.com/uk/rulesandpublications/medicalantidoping.html

WADA Website: www.wada-ama.org

Organisation of FIS Anti-Doping Activities

- **FIS Anti-Doping Expert** defines:
  - Programme(s)
  - Testing
  - Timing
  - Targeting

- **FIS Office** supports anti-doping work handling:
  - Administration
  - Financing

Organisation of FIS Anti-Doping Activities

- FIS **Medical Committee** is responsible for:
  - **reviewing** the WADA Prohibited List in relation to **specific** knowledge about the FIS disciplines;
  - developing anti-doping **education** and **preventative** programmes for use by National Ski Associations;
  - **advising** on sports-specific information in regard to **characteristics** of disciplines and types of performance-enhancing substances.

Information about FIS Anti-Doping Activities

- Two specialist anti-doping **agencies** appointed by FIS to test at **World Cup Events** in the different disciplines
- Coordination with **National Anti-Doping Agencies** and FIS agencies for in-competition testing at World Cup
- Coordination with **WADA** for specific out-of-competition testing programmes

Information about FIS Anti-Doping Activities

- Testing in **Oberstdorf** largest in-competition programme outside Olympic Games
- **HGH** (human growth hormone) and **blood transfusion** included in FIS testing in the past season
- WADA regulations include **adding** new prohibited substances or methods within 15 days

International Federation Responsibilities

- **Define** International Registered Testing Pool
- **Collect** Whereabouts Information from FIS-IRTP
- Create **Process** for Therapeutic Use Exemption (**TUE**) applications
- **Results** Management
- **Education**

FIS International Registered Testing Pool

- Cross-Country Skiing, Ski Jumping, Nordic Combined and Alpine Skiing top 50 athletes
- Freestyle Skiing top 30 overall and top 6 disciplines
- Snowboarding top 10 in each discipline

- **26** different National Ski Associations
- **630** Athletes

Whereabouts Information

Whereabouts information may be provided either:

- by the **athlete** him/herself
- by the **National Ski Association** on behalf of the athlete
- by the **National Anti-Doping Agency**
- the **athlete is responsible** for its timely and accurate submission

Whereabouts Information

Important points to take into account:

- Information given by the athletes needs to be specific enough to enable FIS or WADA to conduct out-of-competition testing
- Whereabouts information is required for each day - this also applies to changes
- Information needs to be legible
- Updates can also be sent by sms

Therapeutic Use Exemptions (TUE)

- The World Anti-Doping Code allows athletes and their doctor to apply for **permission** to use substances or methods on the WADA list of prohibited substances, for therapeutic purposes
- If the application is **granted**, the athlete will receive a Therapeutic Use Exemption (**TUE**)

Therapeutic Use Exemptions (TUE)

- The skier **MUST** apply for a TUE for the therapeutic use of a Prohibited Substance or Prohibited Method **prior** to the use of a Prohibited Substance
- Except in **emergency** situations, a TUE application may be submitted no later than **21 days** before participation at an International Event
- An TUE application will **not** be considered for **retroactive** approval except in cases where emergency treatment was necessary

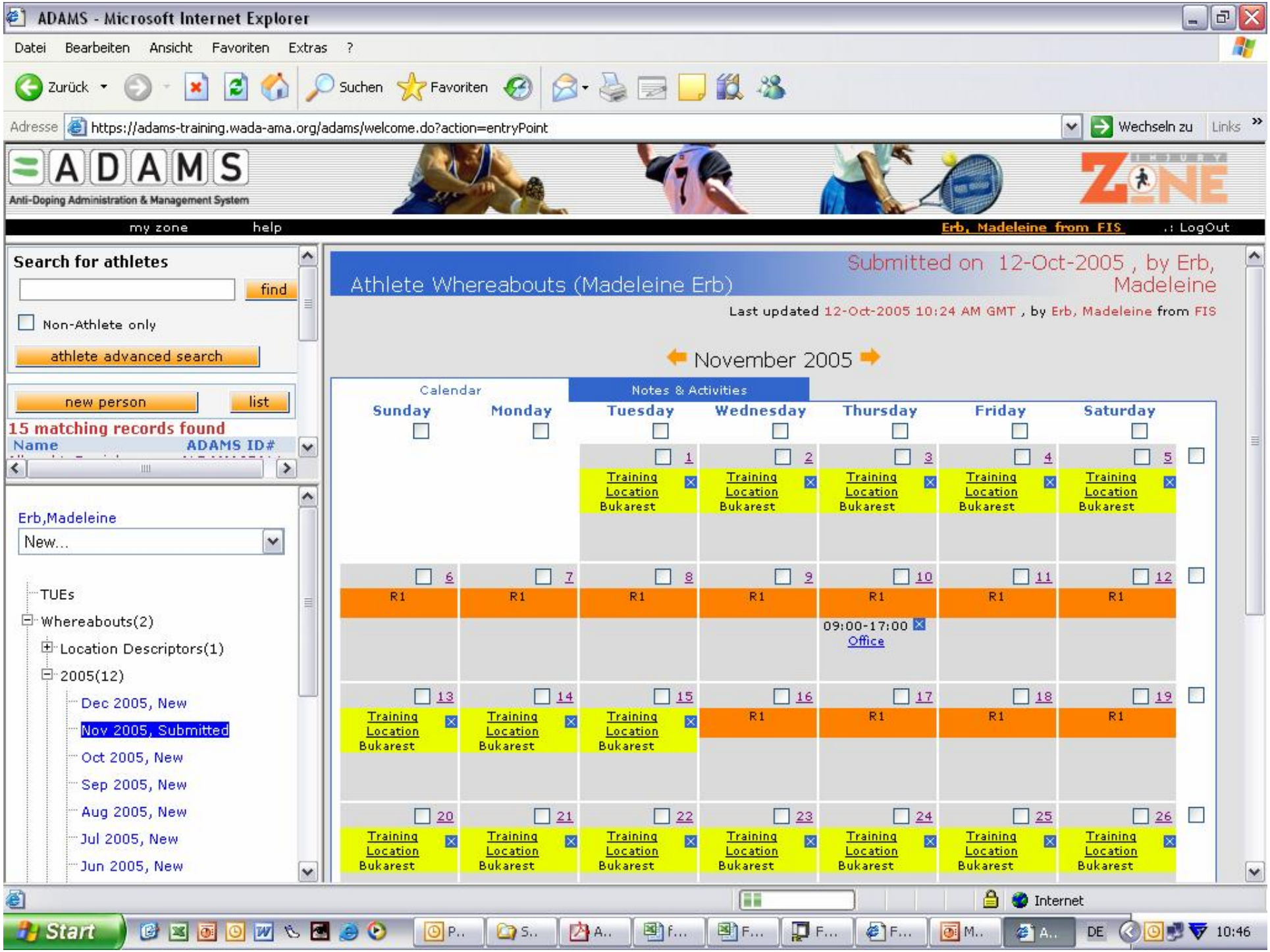
Therapeutic Use Exemptions (TUE)

A TUE can be granted **ONLY** in accordance with the following criteria:

- The athlete would experience significant **health problems** if he/she does not use the substance for which a TUE is requested
- The therapeutic use of the substance or method would **not enhance performance**
- There is **no** reasonable therapeutic alternative

ADAMS - Anti-Doping Administration Management System

- Coordination of Anti-Doping Activities through secure web-based platforms:
  - Athletes **Whereabouts**
  - **TUE** Management
  - **Clearing** House (laboratory results)
  - Doping **Control** (test planning and management)


ADAMS - Microsoft Internet Explorer
Datei Bearbeiten Ansicht Favoriten Extras ?
Zurück Suchen Favoriten
Adresse https://adams-training.wada-ama.org/adams/welcome.do?action=entryPoint
Wechseln zu Links
ADAMS
Anti-Doping Administration & Management System
my zone help
Erb, Madeleine from FIS .: LogOut
Search for athletes
find
Non-Athlete only
athlete advanced search
new person list
15 matching records found
Name ADAMS ID#
Erb,Madeleine
New...
TUEs
Whereabouts(2)
Location Descriptors(1)
2005(12)
Dec 2005, New
Nov 2005, Submitted
Oct 2005, New
Sep 2005, New
Aug 2005, New
Jul 2005, New
Jun 2005, New
Athlete Whereabouts (Madeleine Erb)
Submitted on 12-Oct-2005 , by Erb, Madeleine
Last updated 12-Oct-2005 10:24 AM GMT , by Erb, Madeleine from FIS
November 2005
Calendar
Notes & Activities
Sunday Monday Tuesday Wednesday Thursday Friday Saturday
Training Location Bukarest
R1
09:00-17:00
Office
Internet
Start
10:46

FIS Anti-Doping Activities - Education

FIS E-learning programme

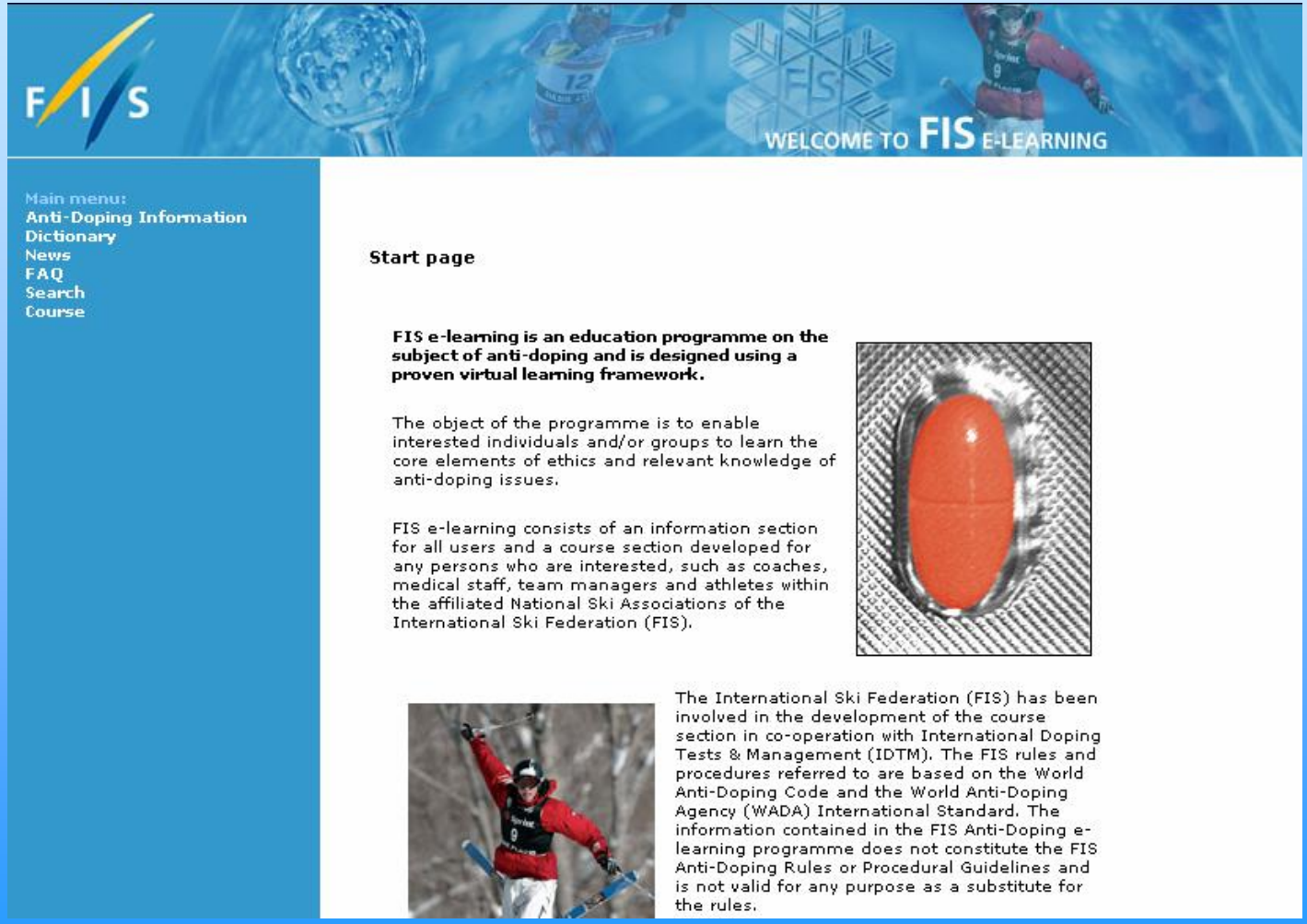
- FIS E-learning is a **web-based** course launched in 2003
- Aim is to **reduce** doping abuse through **education** and **information** about doping
- Target groups: Athletes, Coaches, Doctors, other interested individuals

FIS Anti-Doping Activities - Education

FIS E-learning programme

- Ethics
- History
- Doping Controls
- Medical Information
- Effects & Side effects
- Leadership

FIS E-Learning



FIS In-Competition Tests 2004/2005

including World Ski Championships

	Urine incl. Epo	Blood	HgH	Blood transfusion
Cross-Country	400	1506	12	72
Nordic Combined	105	245	6	18
Ski Jumping	63	6	6	
Alpine	186	56	56	
Freestyle	144			
Snowboard	197			
Total	**922**	**1813**	**80**	**90**

FIS Out-of-Competition Tests 2004/2005

OOC tests conducted by FIS and WADA season 2004/2005

188 Urine including Epo

111 Blood

24 HgH

***WADA Out-of-Competition Testing Period 1.1.-31.12.2004**


Welcome
Willkommen
Bienvenue
Benvenuti
FIS Youth Seminar
Dublin 2005


SWISS SNOW
LEAGUE


SWISS SNOWSPORTS


SWISS SNOW
EDUCATION


SWISS SNOW
HAPPENING


SWISS SNOW
DEMO TEAM


SWISS SNOW
BULLETIN


SWISS SNOW
C A M P S


SWISS SNOW
HOLIDAY


SWISS SNOW
LEAGUE


SWISS SNOW
EDUCATION POOL


SWISS SNOW
PARTNER


SWISS SNOW
K I D S


SWISS SNOW
BOUTIQUE

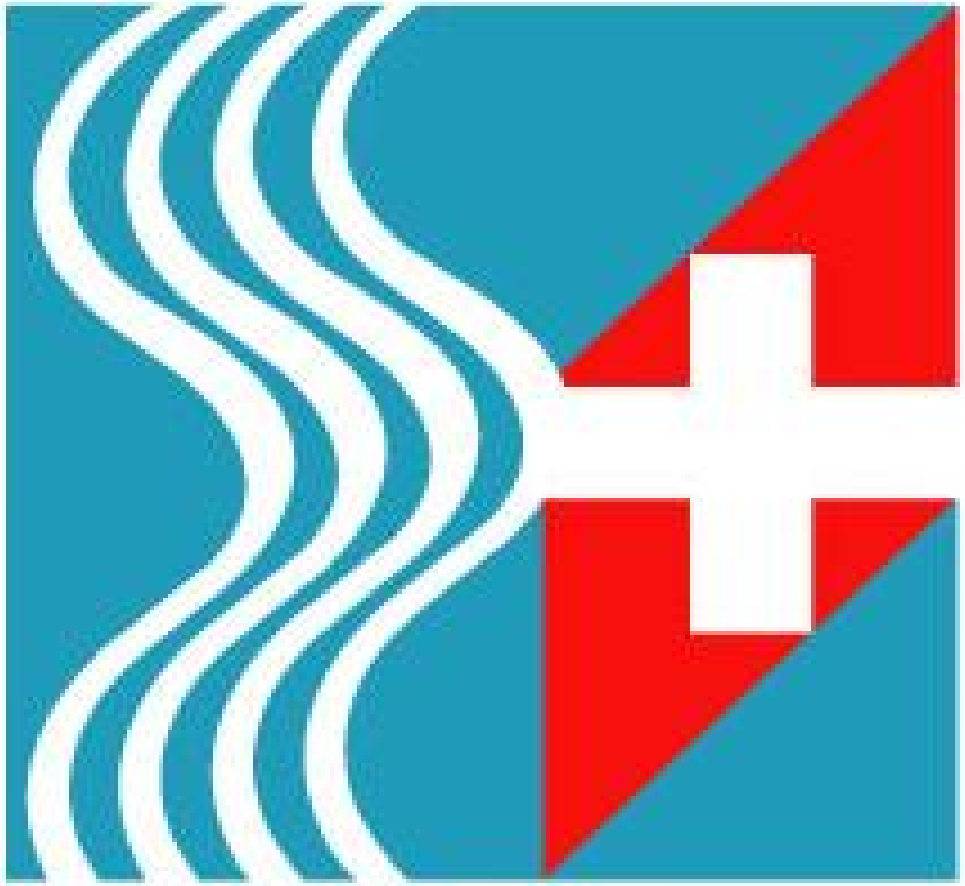

SNOWLI
swiss snow kids village


just for snowsports!

SWISS SNOW
LEAGUE

SWISS SNOWSPORTS

SWISS SNOW



LEAGUE

CONTENT

- History
- Vision
- Mission
- Value
- Product overview
- Program overview
- Outlook

HISTORY

- **Decline in half-day lessons**
- **Absence of children over 12**
- **The Schools' image problems**
- **Gaps in the Ski School testing structure (individual interim tests)**

HISTORICAL TEST-PINS

- **Children's Gold / Silver / Bronze test**
- **Adults' Gold / Silver / Bronze test**
- **ISIA test**

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

TEST INTERNATIONAL

SCHWEIZER SKITEST FÜR KINDER

Anforderungen

Kindertest 1, bronze

Kinderklassen 2 und 3.
Internationales Ziel: Pflugschwingen (Grundschwingen aus Pflugstellung).
Der Test 1 ist ein Ausweis über die kindgemässe Anwendung der elementaren Fahrformen.

1. Gehen in der Ebene und Aufsteigen mit Scherkehren.
2. Schussfahren in der Fallinie.
3. Schrägfahren in beiden Richtungen.
4. Bremsen mit Pflug.
5. Schrägrutschen in beiden Richtungen.
6. **Pflugschwingen.**

Mindestanforderung für Test 1:
Total 24 Punkte und Note 4 für das Pflugschwingen.

Kindertest 2, silber

Kinderklasse 4.
Internationales Ziel: Schwingen in paralleler Skistellung.
Der Test 2 ist ein Ausweis über die sichere Anwendung der Kinderskitechnik.

1. Beschleunigen mit Schlittschuhschritten auf leicht geneigtem Hang und in der Ebene.
2. **Wellenfahren in der Fallinie oder in Schrägfahrt.**
3. Anhalten mit Stoppschwüngen (Schwünge bergwärts) aus der Fallinie.
4. Bogentreten in beiden Richtungen auf leicht geneigter Piste.
5. Einfache Form des Kurzschwingens in offener Skistellung (Grobform evtl. ohne Stockeinsatz).
6. **Offen Parallelschwingen auf der Piste.**

Mindestanforderung für Test 2:
Total 24 Punkte und Note 4 für das offene Parallelschwingen.

Jugendtest 3, gold

Kinderklasse 6.
Internationales Ziel: Situationsgerechtes Schwingen und technische Vielseitigkeit.
Mindestalter 12 Jahre.
Der Test 3 ist eine Auszeichnung für die jugendgemässe und vielseitige Anwendung der Skitechnik.

1. Parallelschwingen mit Stockeinsatz.
2. Schwingen mit Rennumsteigen.
3. Schwingen durch 6 Slalomtore.
4. Springen auf Geländekante oder Kleinschanze (ca. 4-6 m).
5. Parallelschwingen im unpräparierten Weichschnee (oder Fahren über Buckelpiste oder Wellenbahn).
6. **Kurzschwingen auf steiler Piste**

Mindestanforderung für Test 3:
Total 24 Punkte und Note 4 für das Kurzschwingen auf der Piste.

Dezember 1996

Schweizerischer Interverband für Skilauf.

TEST SUISSE DE SKI POUR LES ENFANTS

Conditions

Test d'enfants 1, bronze

Classes 2 et 3 d'enfants.
But international: virage chasse-neige (virage élémentaire de la position de chasse-neige).
Le test 1 confirme l'application des formes élémentaires techniques, adaptées aux enfants.

1. Marcher en terrain plat et monter avec changement de direction en ciseaux.
2. Descendre dans la ligne de pente.
3. Descendre en traversée dans les deux directions.
4. Chasse-neige freinant.
5. Déraper dans les deux directions.
6. **Virages chasse-neige.**

Exigence minimum pour le test 1:
24 points au total et note 4 pour les virages chasse-neige.

Test d'enfants 2, argent

Classe 4 d'enfants.
But international: virages parallèles trace ouverte.
Le test 2 confirme l'application sûre de la technique de ski des enfants.

1. Accélérer avec des pas de patineur sur une pente douce et sur le plat.
2. Passer des bosses dans la ligne de pente ou dans la descente en traversée.
3. S'arrêter avec des virages «stop» (virages amonts) dans la descente en ligne de pente.
4. Pas tournant dans les deux directions sur piste en légère inclinaison.
5. Forme simple du virage court, avec position ouverte des skis (forme grossière, sans planter du bâton, le cas échéant).
6. **Virages parallèles trace ouverte sur la piste.**

Exigence minimum pour le test 2:
24 points au total et note 4 pour les virages parallèles trace ouverte.

Test pour les jeunes 3, or

Classe 6 d'enfants.
But international: virages adaptés aux situations et diversité technique.
Age minimum 12 ans.
Le test 3 est une distinction pour l'application diversifiée de la technique du ski, en relation avec la jeunesse des skieurs.

1. Virages parallèles avec planté du bâton.
2. Virages avec pédalage de compétition.
3. Virages en passant par 6 portes de slalom.
4. Sauts sur crête de terrain ou petit tremplin (env. 4 à 6 m).
5. Virages parallèles sur neige poudreuse non préparée (ou bien descente sur piste bosselée).
6. **Virages courts sur piste en pente raide.**

Exigence minimum pour le test 3:
24 points au total ou la note 4 pour les virages courts sur la piste.

Décembre 1996

Interassociation suisse pour le ski.

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

SCHWEIZER SKITEST FÜR ERWACHSENE

Anforderungen

Test bronze

Skischulklassen 2 und 3.
Internationales Ziel: Pflugschwingen
(Grundschwingen aus Pflugstellung)

Der Test bronze ist ein Ausweis über gute Kenntnisse und sichere Anwendung der elementaren Fahrformen. Der Testrichter hat folgende Fertigkeiten zu beurteilen:

1. Gehen in der Ebene und Aufsteigen mit Scherkehren.
2. Schussfahren in der Fallinie.
3. Schrägfahren in beiden Richtungen.
4. Bremsendes Pflügen, in leichten Verhältnissen bis zum Anhalten.
5. Schrägrutschen in beiden Richtungen.
6. **Pflugschwingen.**

Mindestanforderung für Test bronze:
Note 4 für das Pflugschwingen und 24 Punkte im Total.

Test silber

Skischulklasse 4 und 5.
Internationales Ziel: Schwingen in offener, paralleler Skistellung.

Der Test silber ist ein Ausweis über die sichere Anwendung der mittleren Fahrformen. Der Testrichter hat folgende Fertigkeiten zu beurteilen:

1. Beschleunigen mit Schlittschuhschritten (Grobform) auf leicht geneigtem Hang und in der Ebene, ohne und mit Stockeinsatz.
2. Wellenfahren in der Fallinie oder in Schrägfahrt.
3. Anhalten mit Stoppschwüngen (Schwünge bergwärts) aus der Fallinie.
4. Bogentreten in beiden Richtungen auf leicht geneigtem Hang in unpräpariertem Schnee.
5. Freies Schwingen über einen Hang.
6. **Offen Parallelschwingen auf der Piste.**

Mindestanforderung für Test silber:
Note 4 für die offenen Parallelschwünge und 24 Punkte im Total.

Test gold

Skischulklasse 6.
Internationales Ziel: Situationsgerechtes Schwingen.
Mindestalter 17 Jahre.

Der Test gold ist eine Auszeichnung für das Beherrschen und den Verhältnissen angepasste Anwenden der Skitechnik aller Stufen. Der Testrichter hat folgende Schwungformen in den entsprechenden Verhältnissen zu beurteilen:

Auf der Piste:

1. Geschlossen Parallelschwingen.
2. **Kurzschwingen im steilen Gelände.**
3. Schwingen mit Beugedrehen auf Buckelpiste.
4. Rennumsteigen.

Im Tiefschnee
(wenn nicht vorhanden, in unpräpariertem Schnee):

5. Geschlossen Parallelschwingen.
6. Kurzschwingen im steilen Gelände.

Mindestanforderung für Test gold:
Note 4 im Kurzschwingen auf der Piste und 24 Punkte im Total.

Dezember 1991

Schweizerischer Interverband für Skilauf.

TEST SUISSE DE SKI POUR LES ADULTES

Conditions

Test bronze

Classes 2 et 3 des écoles de ski.
But international: virage chasse-neige
(virage élémentaire de la position de chasse-neige).

Le test bronze est un certificat prouvant de bonnes connaissances des formes élémentaires et leur application sûre dans la descente à ski. Le juge de test taxera les aptitudes suivantes:

1. Marcher en terrain plat et monter avec changement de direction en ciseaux.
2. **Descendre dans la ligne de pente.**
3. Descendre en traversée dans les deux directions.
4. Chasse-neige freinant, en terrain facile jusqu'à l'arrêt.
5. Déraper dans les deux directions.
6. **Virages chasse-neige.**

Exigence minimum pour le test bronze:
note 4 pour les virages chasse-neige et 24 points au total.

Test argent

Classes 4 et 5 des écoles de ski.
But international: virages parallèles trace ouverte.

Le test argent est un certificat confirmant une application sûre des formes de difficulté moyenne dans la descente à ski. Le juge de test taxera les aptitudes suivantes:

1. Accélérer avec des pas de patineur (forme de base) sur une pente douce et sur le plat avec et sans planter de bâtons.
2. Passer des bosses dans la ligne de pente ou dans la descente en traversée.
3. S'arrêter avec des virages «stop» (virages amont) de la descente en ligne de pente.
4. Pas tournant dans les deux directions sur une pente peu inclinée dans une neige non préparée.
5. Descente libre en virages sur une pente facile.
6. **Virages parallèles trace ouverte sur la piste.**

Exigence minimum pour le test argent:
note 4 pour les virages parallèles trace ouverte et 24 points au total.

Test or

Classe 6 des écoles de ski.
But international: virages adaptés aux situations.
Age minimum 17 ans.

Le test or est une distinction pour la maîtrise et le juste application de la technique du ski dans toutes les conditions et de tous les degrés. Le juge de test doit taxer les formes de virages suivantes dans les conditions indiquées:

Sur piste:

1. Virages parallèles trace serrée.
2. **Virages courts sur pentes raides.**
3. Descendre et virer en flexion-pivotement sur pistes bosselées.
4. Pédalage de compétition.

En neige tendre
(à défaut, en neige non préparée):

5. Virages parallèles trace serrée.
6. Virages courts sur pentes raides.

Exigence minimum pour le test or:
note 4 pour les virages courts sur piste et 24 points au total.

Décembre 1991

Interassociation suisse pour le ski.

VISION

- Creation of the Swiss Snow Sports School brand (image building)
- Development of Swiss Snow League (corporate identity)
- Logo (corporate design)
- Realization of the core teaching and learning book/specific teaching and learning books (corporate communication)
- Snow sports philosophy (corporate behavior)
- Products
- Customer loyalty

MISSION

- Exciting and customer-oriented teaching programs
- Training and continued development of the snow sports instructors/technical directors at all levels
- Creation of useful teaching aids: specific teaching and learning books/Swiss Snow League pocket edition, educational video
- Products: medals, personal League pass (credit card format), stickers, booklets, address cards, class signs, and more
- Establishing and updating a customer database

VALUE

- Customer identification
- High-quality, exciting, and attractive lessons
- Fostering customer loyalty through standardized ski and snowboard structures in the Swiss Snow League (Snow Crack status)
- Encouraging new instructors to join (Snow Pros)
- Development of new sources of income, management tool for Snow Sport School‘s managing director, helping customers and snow sports instructors get their bearings and identify the right course category
- Communication with customers, easier marketing of new offers

SWISS SNOW LEAGUE

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

SWISS SNOWSPORTS

Lernlehrmittel für den Kinder-Schneesportunterricht

swiss snowsports CH-3123 Belp www.snowsports.ch

SWISS SNOWSPORTS

SNOWLI

vom
Swiss Snow Kids Village
zur
Swiss Snow League

Lernlehrmittel für den Kinder-Schneesportunterricht

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

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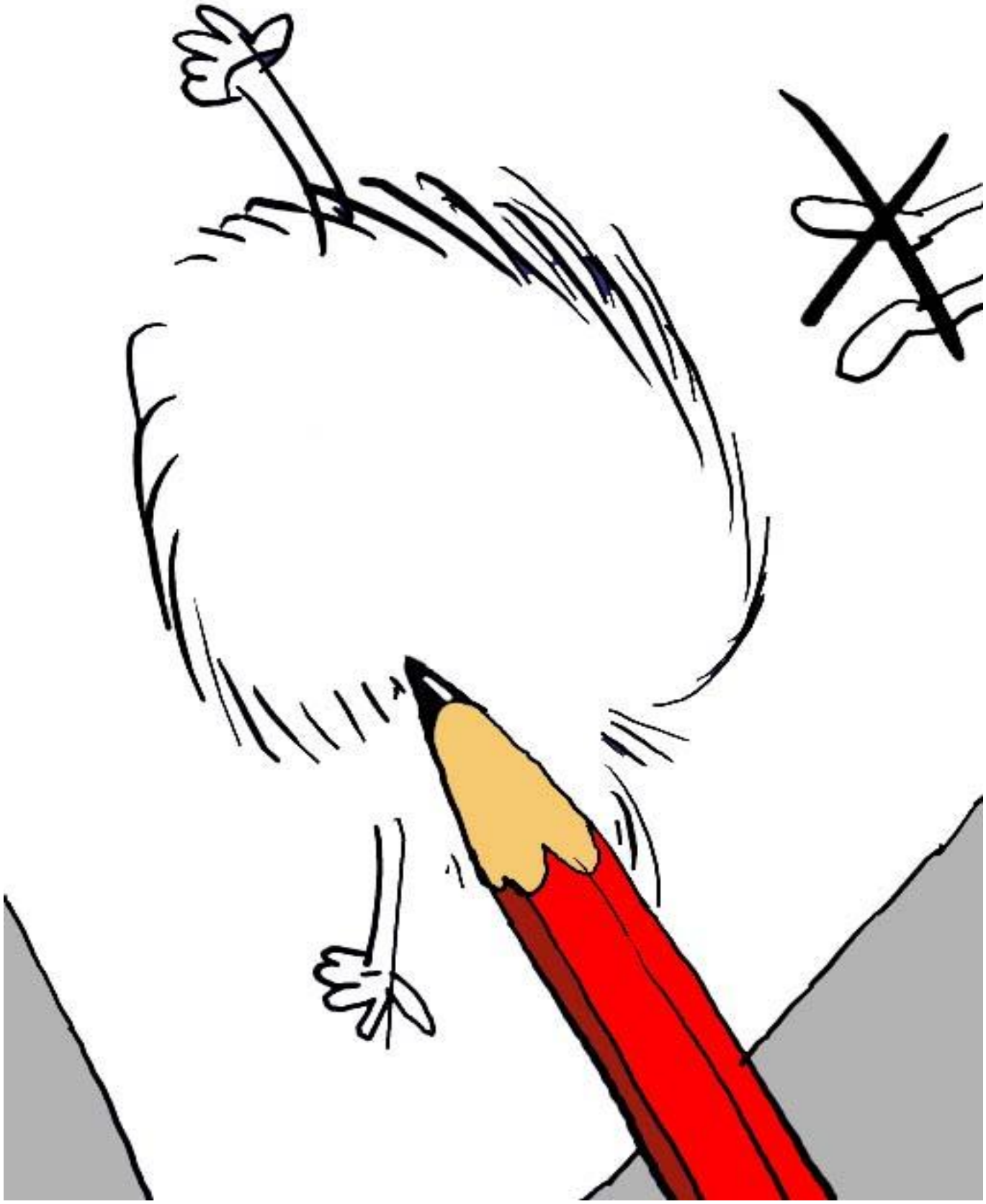
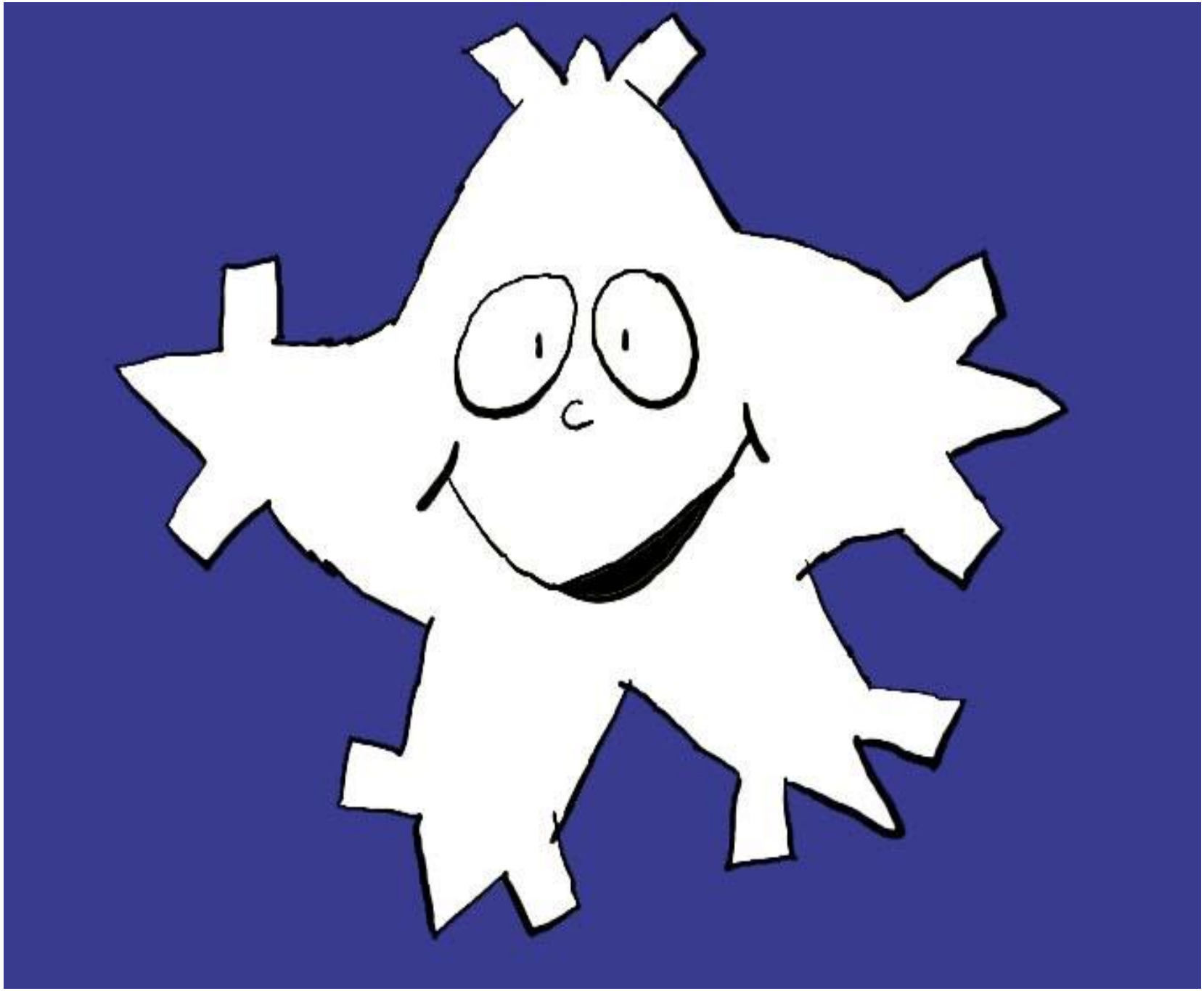
SWISS SNOW LEAGUE



SWISS SNOW LEAGUE

SWISS SNOWSPORTS



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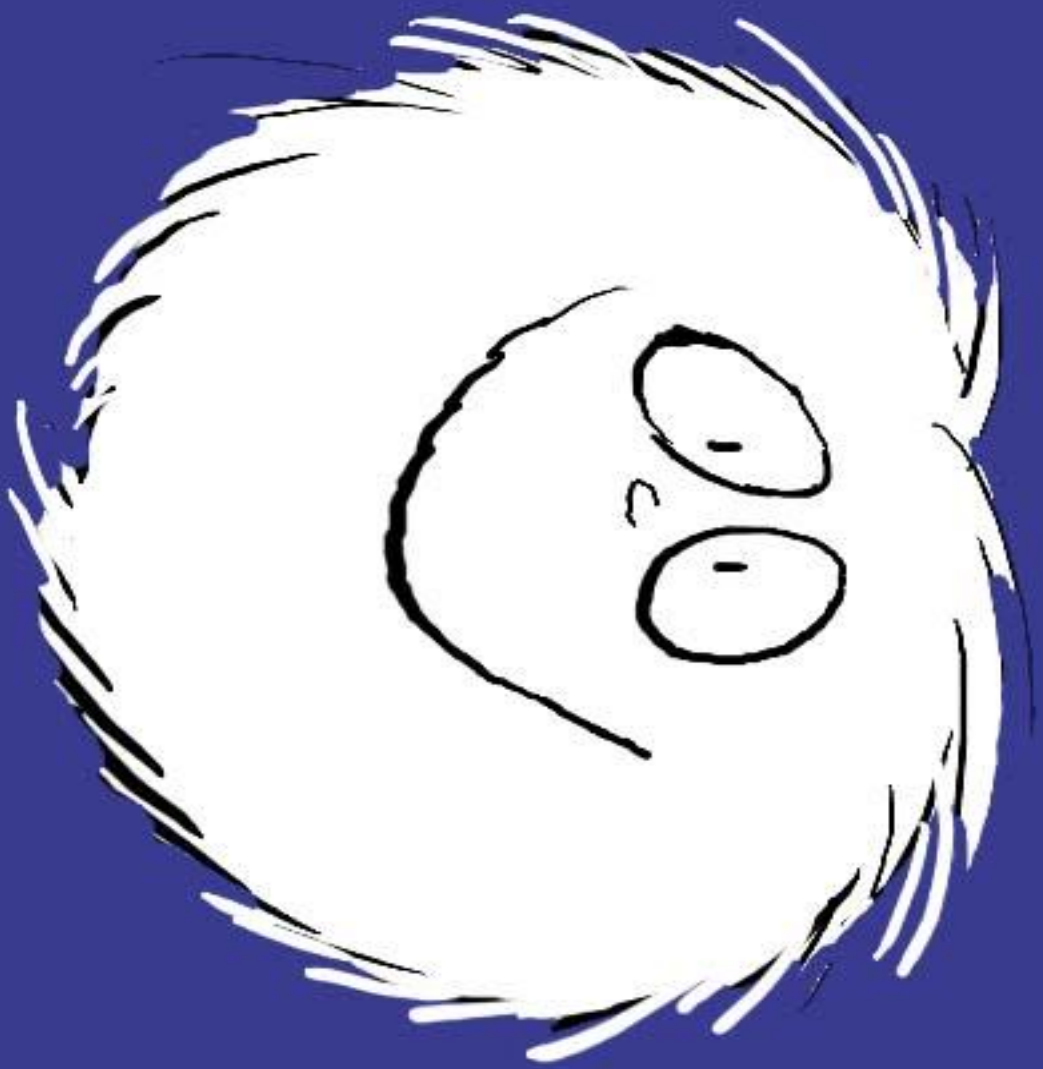

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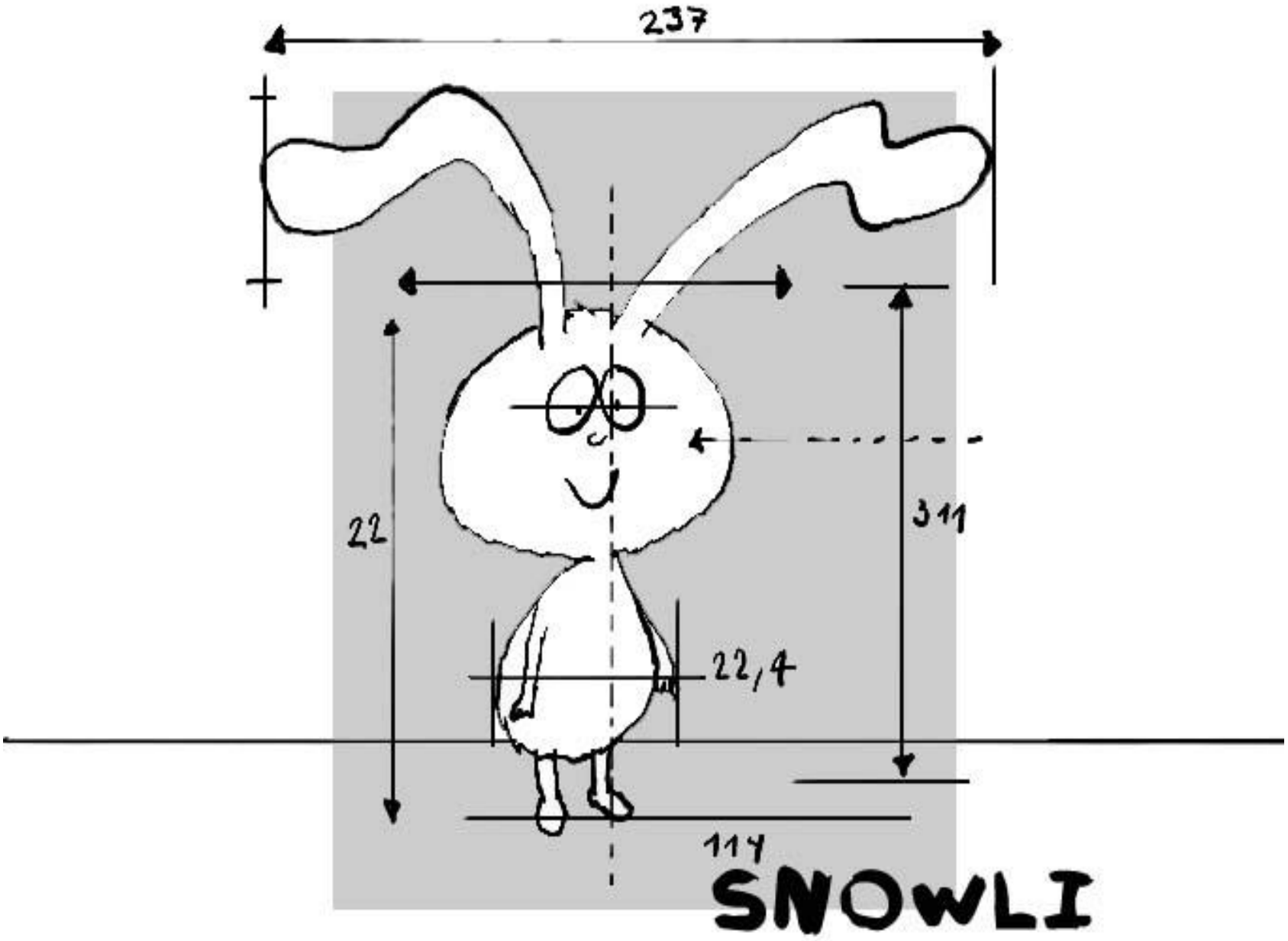

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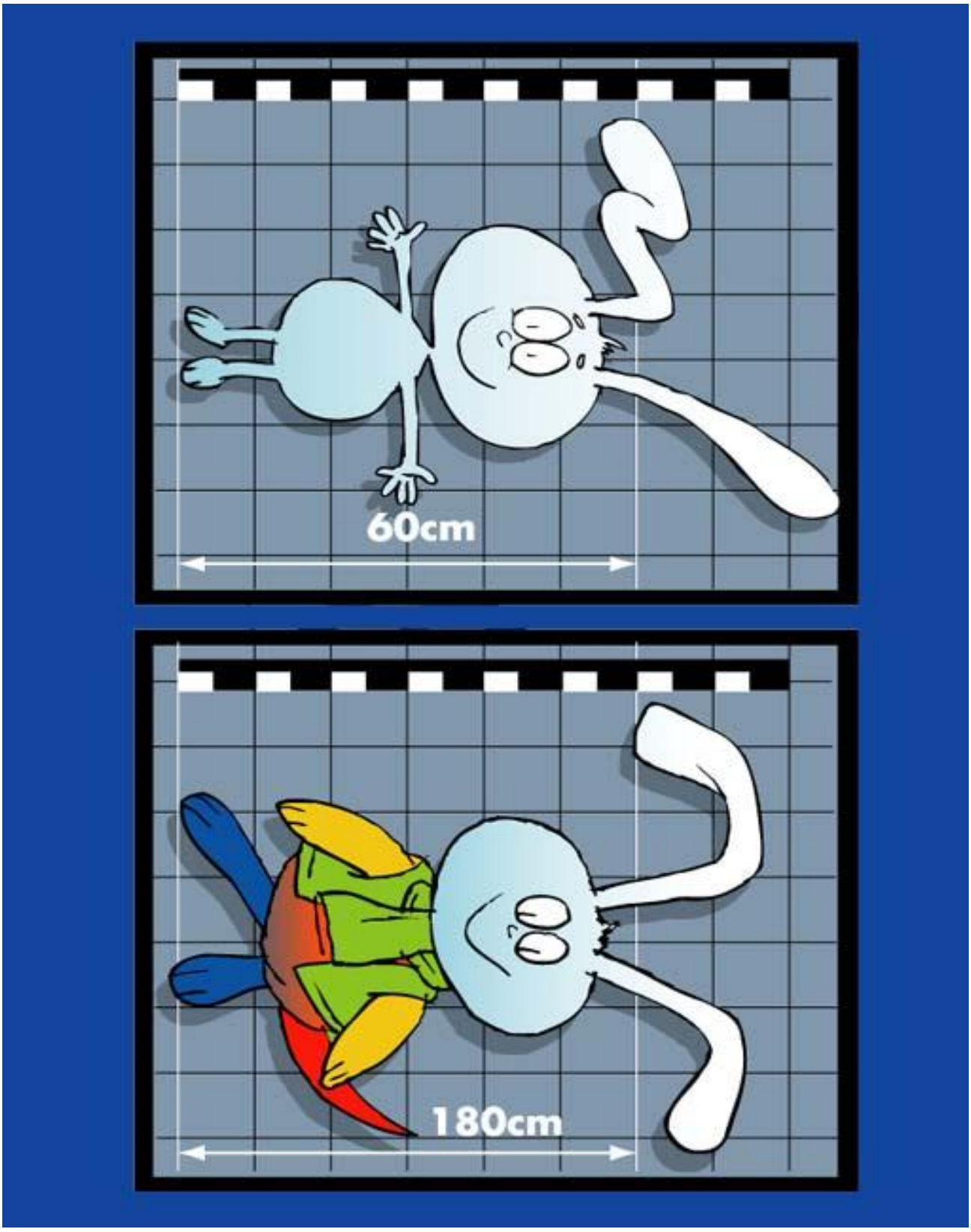

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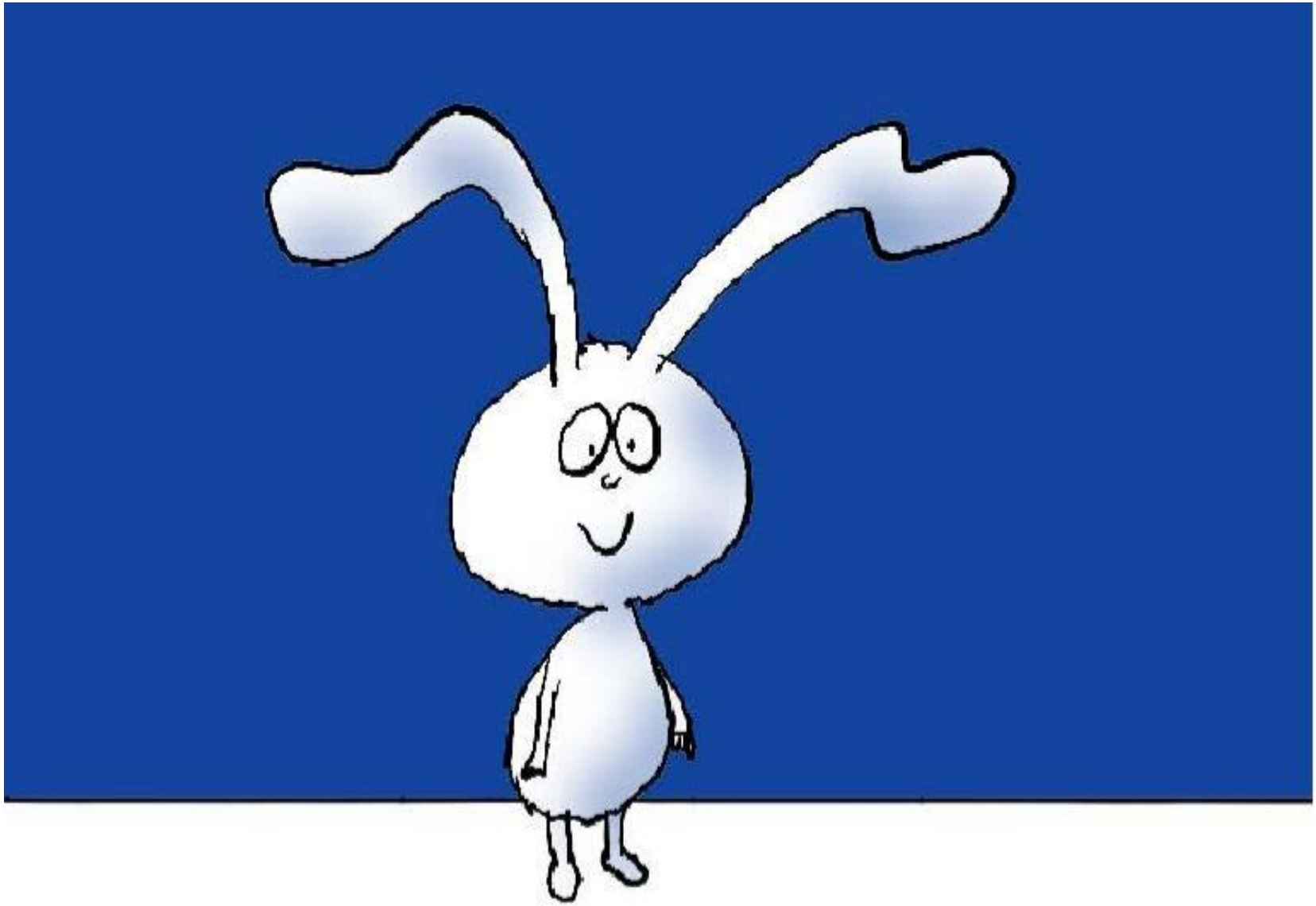

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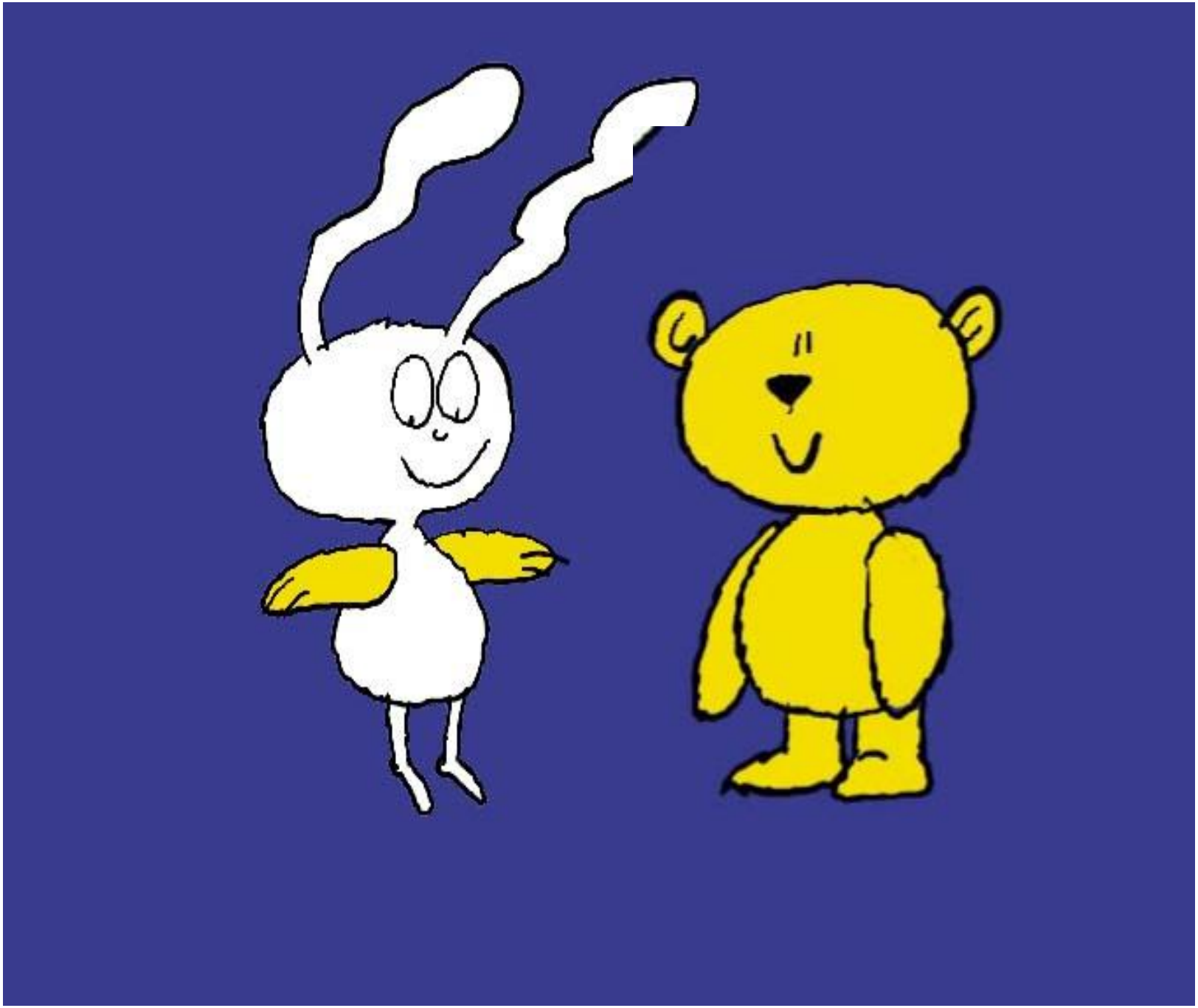

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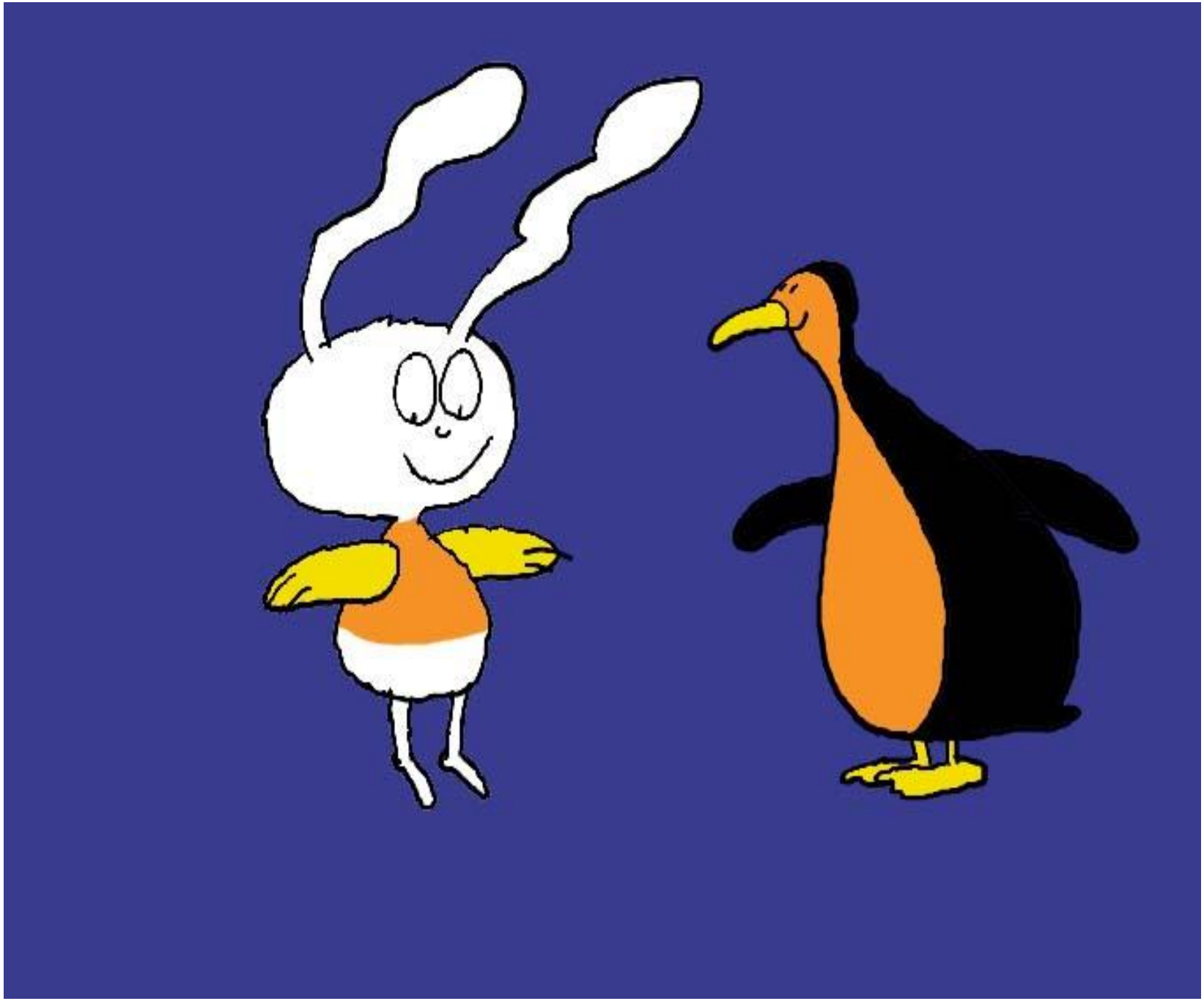

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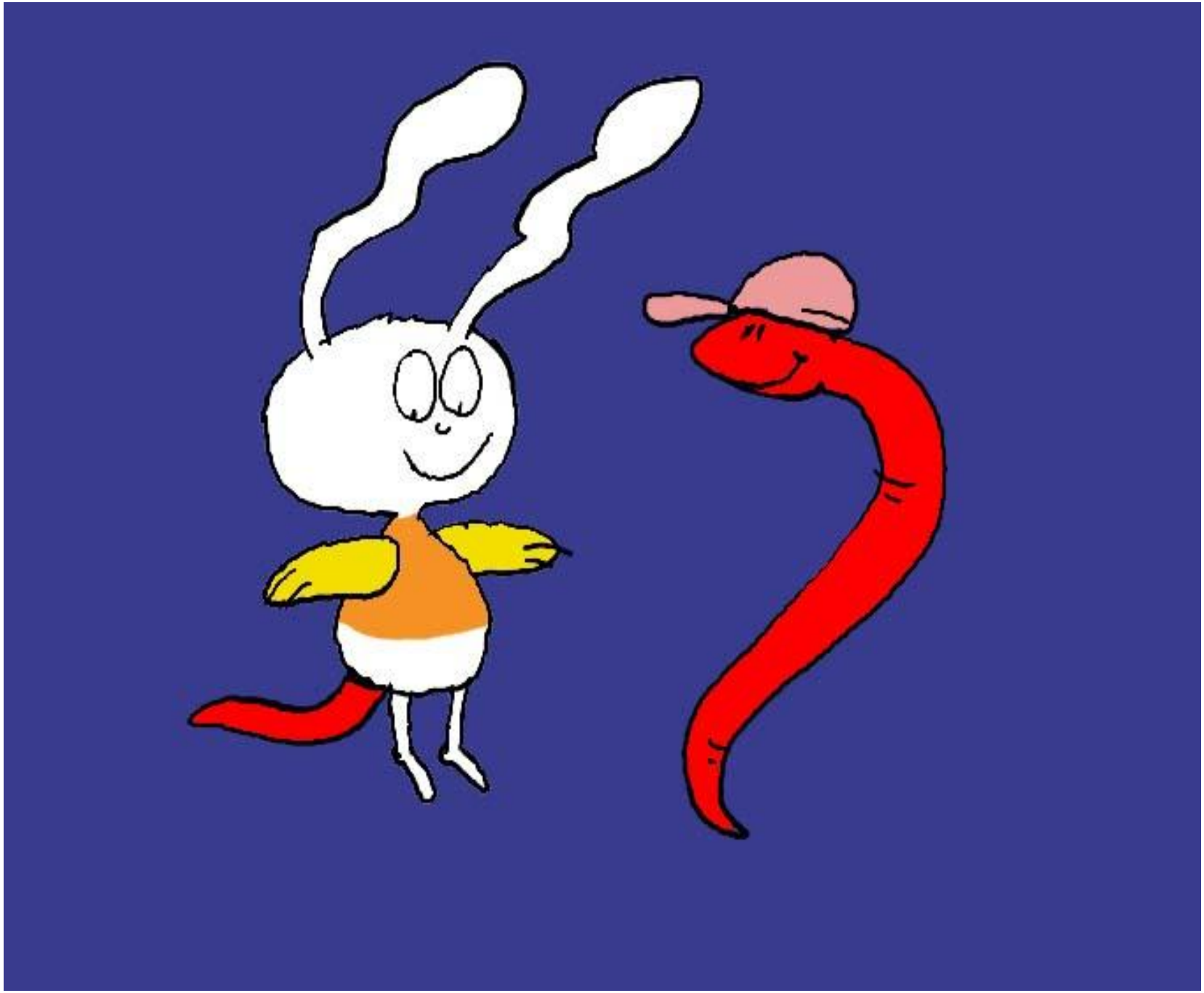

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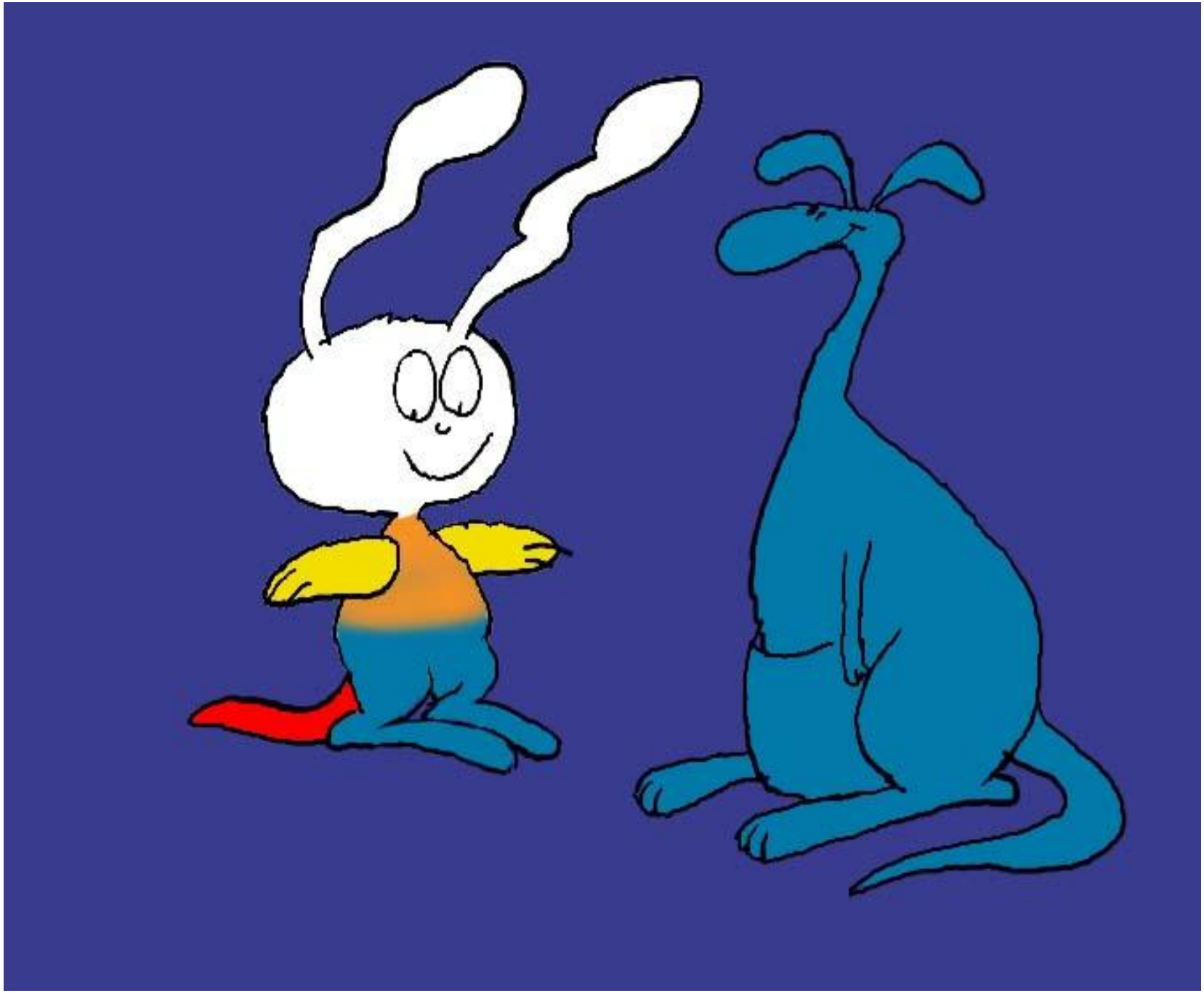

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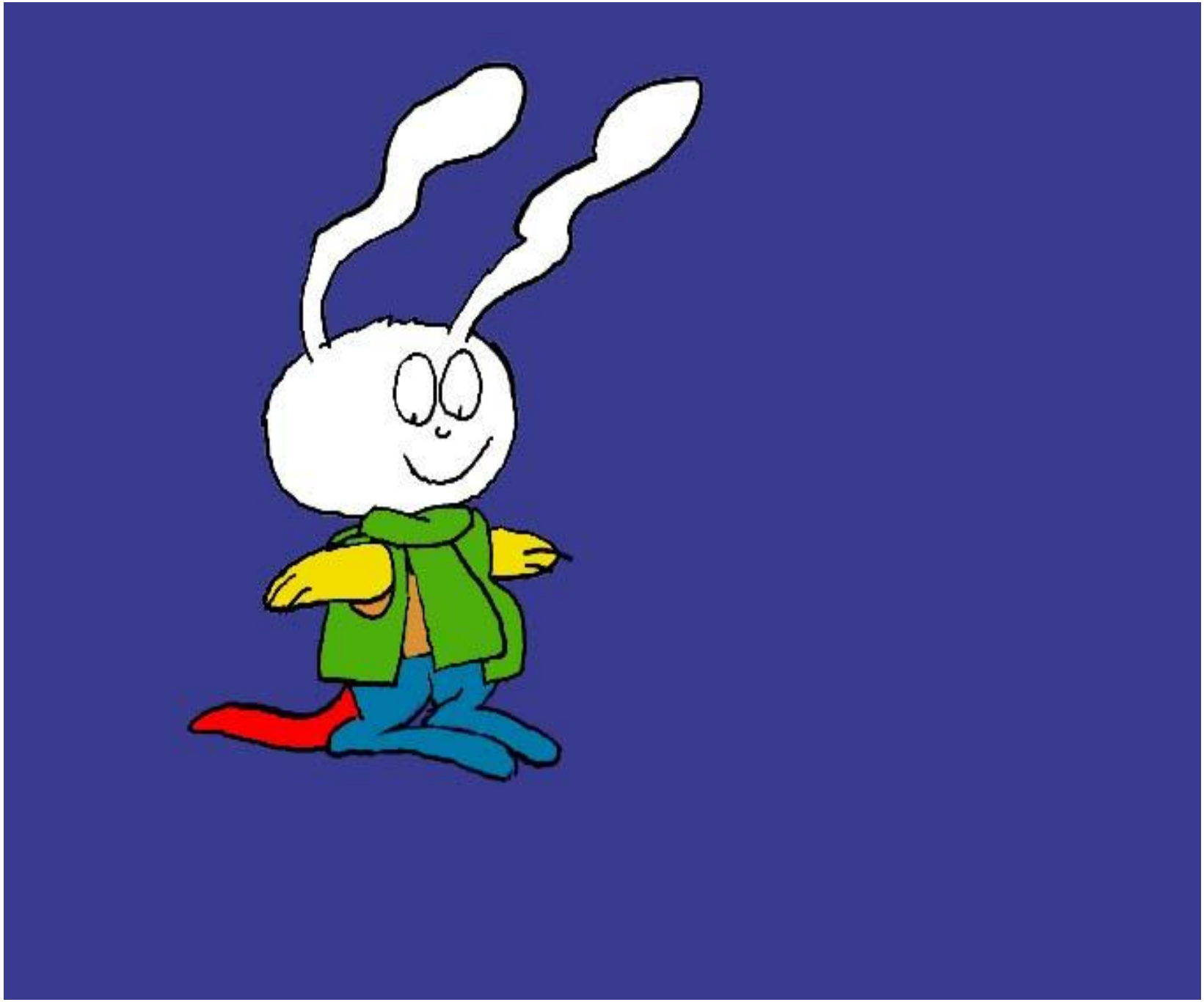


SWISS SNOW LEAGUE

SWISS SNOWSPORTS

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

SNOWGARDEN

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

SWISS SNOW KIDS VILLAGE

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

LEVEL 1

PRINCE
PRINCESSE

LEVEL 2

KING
QUEEN

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

Level 1: Prince/Princess

1. Introduction to skis and equipment
2. Gliding in the fall line with skis in the parallel position
3. Speed control with skis in the snow plough position
4. First direction change using the snow plough turn
5. *Info on equipment*

Level 2: King/Queen

1. Safe skiing on blue runs
2. Wedge christie
3. Agility drills in the fall line and traverse with skis in parallel position
4. Safe use of t-bars and chairs
5. *Info on safe use of transportation in ski areas*

BLUE SKI LEAGUE

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

Level 2: King/Queen

1. Skidded turns on blue run
2. Simple variants of turning and inclining
3. Wheeling, sliding, waltzing
4. Safe use of t-bars and chairs
5. *Info on safe use of transportation in snowboard areas*

Level 1: Prince/Princess

1. Introduction to board and equipment
2. Gliding, sliding, stopping
3. First direction changes (Basic turn)
4. Riding practice on t-bars
5. *Info on equipment*

BLUE BOARD LEAGUE

red ski-league

LEVEL 3

PRINCE
PRINCESSE

red ski-league

LEVEL 4

KING
QUEEN

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

RED SKI LEAGUE

Level 4: King Queen

1. Free skiing on red run using variations of parallel turns
2. Short turns on easy terrain
3. Single ski skiing
4. “A thousand steps“ and skating step
5. *Info on FIS rules*

Level 3: Prince/Princess

1. Safe skiing on red run
2. Parallel turns (skidded)
3. Side slipping/edge setting in the fall line and traverse
4. Ridge/bumps-dips
5. *Info on warming up*

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

RED BOARD LEAGUE

Level 4: King Queen

1. Carved turns on red run
2. Short turns on easy terrain
3. 180° rotations
4. Nose/tail turn
   (Basic trick turn)
5. *Info on FIS rules*

Level 3: Prince/Princess

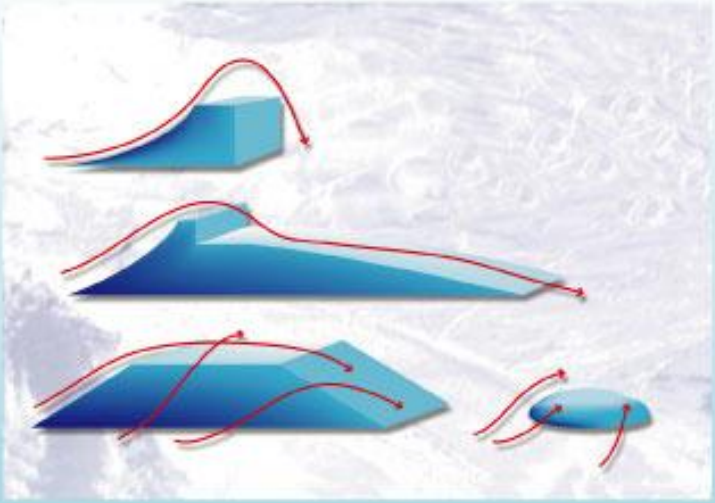
1. Steered turns on red runs
2. Simple variants of flexing and extending
3. Fakie: riding backwards
4. Jumping off across an ollie
   (Basic air)
5. *Info on warming up*

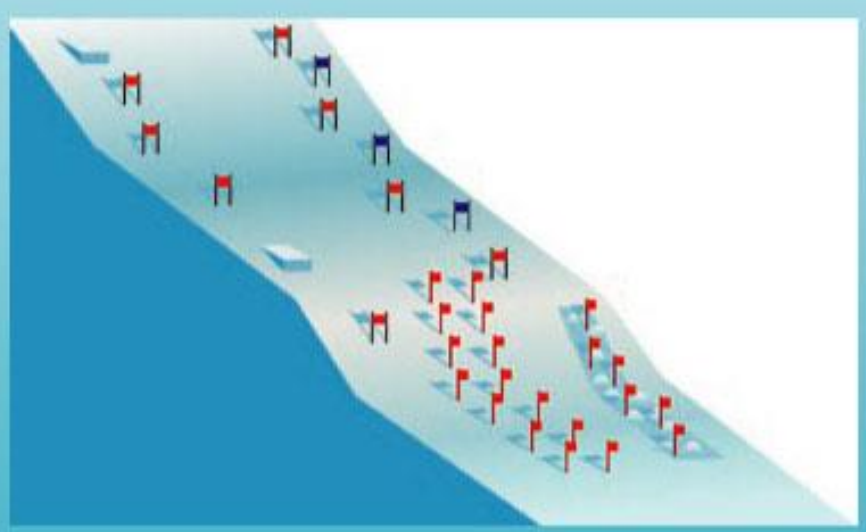
LEVEL 5
PRINCE
PRINCESSE

LEVEL 5
PRINCE
PRINCESSE

SYNCHRO & TRICKS SKI

SWISS SNOW LEAGUE





LEVEL 5
PRINCE
PRINCESSE

BLACK SKI LEAGUE

Level 5: Prince/Princess

Clinic 1: Carving & Turns

1. Free skiing using carved turns
2. Carving turn without poles
3. Crawl
4. Carving in buoys
5. *Info on evolution of equipment*

Clinic 2: Synchro & Tricks

1. Synchro in small groups
2. Demo figures: snake, diamond, triangle, etc.
3. Javelin and fakie parallel turn
4. Parallel turn in moguls and off piste
5. *Info on Swiss Snow Demo Team*

Clinic 3: Park & Pipe

1. Introduction to gates: GS, SL
2. Introduction to snow park
3. Basic jump and pre jum
4. Introduction to turns and jumps in pipe
5. *Info on behavior in park & pipe*

BLACK BOARD LEAGUE

Level 5: Prince/Princess

Clinic 1: Carving & Turns

1. Dynamic carving
2. Fakie carving on easy terrain
3. Fun carving: Grab turns, body carve, vitelli, etc.
4. Turn variants: Rotating, inclining, extending, flexing
5. *Info on evolution of equipment*

Clinic 2: Synchro & Tricks

1. Short turns
2. Synchro and demo figures
3. Slope tricks: Slides, pops, spins, etc.
4. Trick turns: Ollie turn, 180° turn, power slide, etc.
5. *Info on Swiss Snow Demo Team*

Clinic 3: Park & Pipe

1. Snow park: Basic air
2. Jumping off across an ollie
3. Pipe: Basic run
4. Pipe: Traverses
5. *Info on proper behavior in park & pipe*

LEVEL 6

KING

QUEEN

LEVEL 6
KING
QUEEN

LEVEL 6

KING

QUEEN

BLACK SKI LEAGUE

Level 6: King Queen

Clinic 4: Freestyle & Air

1. Short turn variants: Norwegian, Swedish, ollie, etc.
2. Crab, body carve and 360°
3. Nose wheelie, nose turn, back spin, etc.
4. Spread eagle, twister, zudnick, etc.
5. *Info on snow sport instructor certification process*

Clinic 5: Race & Cross

1. Free skiing on black run using variations of parallel turns
2. Competition: SL, GS, etc.
3. Ski cross
4. Creative turns and jumps in pipe
5. *Info on competition/equipment and preparation*

Clinic 6: Free ride & Moguls

1. Creative run (off piste)
2. Short turns in moguls
3. Demo figures (on groomed terrain): opposite synch, Swiss cross, etc.
4. “Powder 8“ and track images
5. *Info on safety, avalanche, and weather*

BLACK BOARD LEAGUE

Level 6: King Queen

Clinic 5: Race & Cross

1. Competitive riding
2. Giant slalom
3. Dual
4. Boarder cross
5. *Info on competition/equipment and preparation*

Clinic 6: Free ride & Moguls

1. Riding on unprepared ground
2. Riding on moguls
3. Powder riding
4. Free riding
5. *Info on safety, avalanche, and weather*

Clinic 4: Freestyle & Air

1. Slope style
2. Snow park: Jump variants
3. Off piste jumping (kicker)
4. Pipe run
5. *Info on snow sport instructor certification process*

SWISS SNOW LEAGUE

SWISS SNOWSPORTS

EVALUATION QUESTIONNAIRE SSL 03-05

Business?

Levels?
(Cand./Prince/King)

Structure?
(Black League)

Material?
(Pins/Cards/Booklets)

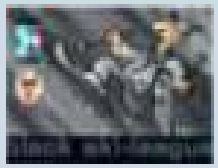
Education and formation?
(instructors)

Schweizer Ski- und Snowboardschule
Swiss Ski and Snowboard School
Ecoles suisses de ski et de snowboard
Scuole Svizzere di Sci e Snowboard

just for snowsports!

OUTLOOK
SWISS SNOW LEAGUE '06 – '07

SKI	SNOW CRACK	SNOWBOARD



Race Crack

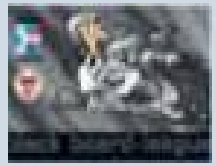
Freestyle Crack

Freeride Crack

Park&Pipe Crack

Freestyle Crack

Freeride Crack



EXPERT

ADVANCED

BEGINNER - NOVICE

SWISS SNOW KIDS VILLAGE


Thank you!
...see you at
www.snowsports.ch

S W I S S S N O W L E A G U E

BACKGROUND

For years, the number of children's tests carried out in Swiss Snow Sports Schools has been declining. While the standardized and internationally acknowledged bronze, silver, and gold tests were eking out a meager existence, with many Snow Sports Schools not even carrying them out anymore, the share of the Snow Sports Schools' individual tests increased in comparison to the total market.
This testing chaos meant that the Swiss Snow Sports School's brand became unnecessarily diluted, damaging the corporate image. Potential customers, especially kids and juniors, were confused and were often reluctant to join the Snow Sports School due to the lack of exciting and challenging courses and products.

VISION

In order to guarantee the high quality of its members' services, the Association launched a customer relationship management program called "SWISS SNOW LEAGUE".
The Swiss Snow League concept aims at creating standardized teaching programs and products for the courses offered by the Snow Sports Schools across all snow sports disciplines. In doing so, it follows the philosophy of the core teaching and learning book "Schneesport Schweiz" 1998 ("Snow Sports Switzerland" 1998) and the special teaching and learning books "SKI" and "SNOWBOARD" (2000). The "SWISS SNOW LEAGUE" brand and company logo are protected and registered as trademarks, which should strengthen the market position and ensure lasting customer loyalty to the Swiss Snow Sports Schools.

MISSION

Our mission is to familiarize our customers, primarily families with children and juniors, with the possibilities of snow sports through exciting teaching programs and products designed especially for them.
For their training and continued development, the snow sports instructors are provided with useful teaching aids, such as pocket editions of our teaching books and videos. This serves to guarantee that our teaching programs are standardized across all Schools.
Each League corresponds to the color of the ski runs and has separate aims to be achieved in alpine skiing and snowboarding.
Unlike the former testing system, the focus now lies not on the performance during the test alone, but on the individual skills and personal progress observed and evaluated throughout the course.
Depending on their individual skills and aptitude, customers can join the League at any learning stage. Moreover, it is very easy to change from one discipline to another to advance to bronze, silver, or gold level, to finally attain the status of "Snow Crack".

The level reached is recorded in each kid's personal booklet and they get a sticker on their personal League pass (which is in credit card format). Furthermore, kids can obtain an official badge of the corresponding color from the Snow Sports School.

VALUE

We ensure that customers can identify strongly with our brand by offering programs and products covering all snow sports disciplines.
Simpler and more transparent teaching programs and structures for ski and snowboard lessons give us a sound basis for generating confidence and credibility, which in turn lead to higher customer loyalty.
In addition to the "SWISS SNOW LEAGUE" products that are included in the course price, we also provide personal value added.
In Swiss Snow Sports Schools, the structures of the "SWISS SNOW LEAGUE" help our customers get their bearings and identify the most appropriate course category for them. Furthermore, these structures are the perfect quality assurance and management tool for snow sports instructors.
And finally, the customers' address details can be fed into a customer database and used for better customer communication. This means that targeted marketing strategies can be successfully realized.

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