Wrestling Intro/Potpourri
34th Annual Magic City Sports Medicine

May 17, 2025

History

French cave drawings dated 15,000 ya

1st in 708 BC- ancient Greek Olympic Games

Military training

19th century revitalization with modern Olympics

Increasing international participation in last 100 years

Individuals and countries

MHSA sanctioned single class in 1956

1958 AA, A-B-C

Now AA, A, B-C

Girls sanctioned in 2020

History

Women's wrestling

Dr. Klepps*, Jaimee Turley and Stacy Molt

*Dr. Klepps, Coach Klepps, OG

- Recently named Montana Assistant Coach (staff) of the Year by National Wrestling Coaches Association

Wrestling Epidemiology

6th most popular HS boys sport

Participation rates rising for last 35 years

Girls wrestling is fastest growing high school sport in country

•Mildred Burke 1930

Collegiate 4th in revenue production of NCAA

Injury Rate - 2nd only to Football

Unique exposure risks

Rules/Officiating

“Pre-Game”

Weigh-in

- 14 NFHS weight classes
- Don Gleason perspective

Exam- grooming

- Hair, nails, mouth, etc

Skin Checks

Gear and Grooming

- Singlet- one-piece, tight fitting
- Shoes- light, heelless, above ankle. Laces must be taped or secured
- Head gear- HS and college mandated- rigid, padded
  - Adequate protection
  - No injury hazard to opponent
  - Adjustable locking device to prevent loss or turning
- Mouth guard
  - Mandatory with braces
  - Optional otherwise
- No jewelry, metal, loose fitting items
- Hair, nails, face

Common Skin Conditions

Molluscum Contagiosum

- Pox Virus
- Raised firm umbilicated papules, 2-4 mm, groups/along scratches.
- Wrestlers, swimmers or “partners” in direct contact
- Tx: cryo-ablation
- quarantine until lesions treated
- Covering is insufficient

Molluscum Contagiosum

NCAA return recommendations

- Lesions must be curetted or removed before the meet or tournament.
- Solitary or localized, clustered lesions can be covered with a gaspermeable membrane such as Op-Site or Bioclusive, followed by ProWrap and stretch tape.
- Several techniques can make removal easier – unroofing with needle; light freeze followed by curette; simple curette of larger lesions
- Cantharidin was effective in kids where curettage difficult

  but largest trial found curettage most effective Rx

Impetigo

- Staph or Strep infxn- highly contagious
- vessicles -> bullae -> crusts with yellow fluid
- Dx: remove crust & culture exudate
- PCN &/or topical Bactroban- 72 hrs
- No H_2O or contact sports until lesions heal
- Highly contagious- incl. fomites

Tinea Corporis/Gladiatorum and Capitis

Tinea Infections

- 1. A minimum of 72 hours of topical therapy is required for skin lesions. The cidal topic antifungals terbinafine or naftifine (Lamisil or Naftin) are suggested for treatment
- 2. A minimum of two weeks of systemic antifungal therapy is required for scalp lesions
- 3. Wrestlers with extensive and active lesions will be disqualified. Activity of treated lesions can be judged either by use of KOH preparation or a review of therapeutic regimen. Wrestlers with solitary, or closely clustered, localized lesions will be disqualified if lesions are in a body location that cannot be "adequately covered." *Covering routine should include selenium sulfide washing of lesion or ketoconazole shampoo (Nizoral), followed by application of naftifine gel or cream (Naftin) or terbinafine cream (Lamisil), then gas-permeable dressing such as Op-site or Bioclusive, followed by ProWrap and stretch tape. Dressing changes should be done after each match so that lesion can air dry*
- 4. The disposition of tinea cases will be decided on an individual basis as determined by the examining physician and/or certified athletic trainer

MRSA

- The big, the bad, the ugly
- Methicillin-Resistant Staph Aureus
- Recent increase in MRSA amongst athletes
- Consider in all non-healing wounds
- Field of play implicated
- Re-used equipment
- Shared razors in locker room
- Community (increasing numbers and resistance) and Hospital acquired types

MRSA

Hospital-Acquired

- Emerged in 1960s
- Cause of >50% of staph infections in ICU
- Susceptible to Vancomycin, linezolid, and daptomycin

Community-Acquired

- Infrequent reports in ’80s
- Cause of skin and soft tissue infections in young and healthy pts
  - Some EDs MRSA now >50% of Staph infections
- Susceptible to broader choice of ABx

The Many Faces of MRSA








Herpes gladiatorum

1-2mm vessicles on red base lasting 2-3 days then rupture & crust x 7days. Prodrome!

Tx: Acyclovir 400 mg TID x 10d (5d for recurrences, BID for prevention.

Quarantine until no draining vessicles 4-6d.

Herpes Gladiatorum

- Occurs in 2.6% of HS wrestlers and 7.6% of collegiate wrestlers
- 20-40% of NCAA Div I wrestlers
- Minnesota HS wrestling camp
  - 60/175 wrestlers (34%) developed HG
    - 58/60 wrestlers (97%) had first clinically apparent HSV-1 infection

Primary HSV in Wrestlers

Wrestlers must be free of systemic symptoms of viral infection (fever, malaise, etc.)

Wrestler must have developed no new blisters for 72 hours before the examination

Wrestler must have no moist lesions; all lesions must be dried and surmounted by a FIRM ADHERENT CRUST

Wrestler must have been on appropriate dosage of systemic antiviral therapy for at least 120 (5 days) hours before and at the time of the meet or tournament

Active herpetic infections shall not be covered to allow participation. See above criteria when making decisions for participation status.

Chronic HSV and Challenges

- Recurrent infection
- 1. Blisters must be completely dry and covered by a FIRM ADHERENT

  CRUST at time of competition, or wrestler shall not participate.
- 2. Wrestler must have been on appropriate dosage of systemic antiviral

  therapy for at least 120 hours before and at the time of the meet or tournament.
- 3. Active herpetic infections shall not be covered to allow participation.

  See above criteria when making decisions for participation status.

Consideration of prophylaxis

Questionable Cases

- 1. Tzanck prep and/or HSV antigen assay (if available).
- 2. Wrestler’s status deferred until Tzanck prep and/or HSV assay results
- complete.

Summary of CDC Recommendations

Keep all wounds covered

Clean hands regularly with soap and water

Maintain good general hygiene with regular bathing with hot water

Do not share items that can get contaminated with wound drainage- towels, etc.

Launder clothing after each use

If you can't keep your wound covered, do not participate in activities where you have skin to skin contact with others

Clean equipment and other surfaces with a detergent/disinfectant for Staph aureus

- 1:100 dilution of bleach

-Routine cleaning schedules for shared equipment

Skin Prevention

- Encourage athletes to report skin lesions and coach to assess athletes regularly for lesions
- Cover or prevent skin to skin contact
- Bactericidal wipes or shower with soap immediately after practice or match
- Clean mats regularly

MONTANA HIGH SCHOOL ASSOCIATION

1 South Dakota Ave
Helena, MT 59601

MEDICAL RELEASE FOR WRESTLER TO PARTICIPATE WITH SKIN LESION

Name of Wrestler: _____ School: _____ Date of Exam: ___ / ____ / ___

Diagnosis _____

_____

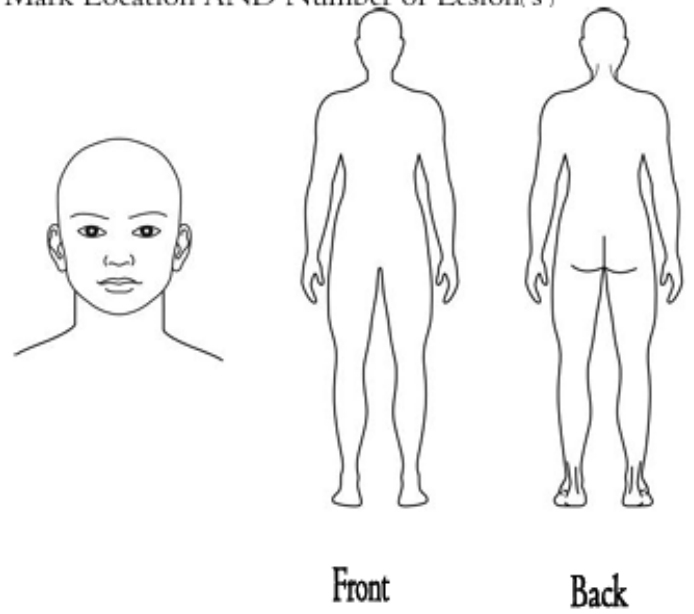
Location AND Number of Lesion(s) _____

_____

Medication(s) used to treat lesion(s): _____

_____

Mark Location AND Number of Lesion(s)



Date Treatment Started: ___ / ____ / ____ Time: _____

Form Expiration Date for this Lesion (Note on Diagram(s)): ___ / ____ / ____

Earliest Date the Wrestler may return to participation: ____ / ____ / ____

Provider Signature _____ Office Phone #: _____

Provider Name (Printed or Typed) _____

Office Address _____

Below are some treatment guidelines that suggest <u>MINIMUM TREATMENT</u> before return to wrestling:

Bacterial Diseases (impetigo, boils): To be considered "non-contagious," all lesions must be scabbed over with no oozing or discharge and no new lesions should have occurred in the preceding 48 hours. Oral antibiotic for 72 hours is considered a minimum to achieve that status. If new lesions continue to develop or drain after 72 hours, MRSA (Methicillin Resistant Staphylococcus Aureus) should be considered.

Herpetic Lesions (Simplex, fever blisters/cold sores, Zoster, Gladiatorum): To be considered "non-contagious," all lesions must be scabbed over with no oozing or discharge and no new lesions should have occurred in the preceding 72 hours. For a first episode of Herpes Gladiatorum, wrestlers should be treated and not allowed to compete for a minimum of 10 days. If general body signs and symptoms like fever and swollen lymph nodes are present, that minimum period of treatment before return to wrestling should be extended to 14 days. Recurrent outbreaks require a minimum of 120 hours of oral anti-viral treatment, again so long as no new lesions have developed and all lesions are scabbed over.

Tinea Lesions (ringworm on scalp or skin): Oral or topical treatment for 72 hours on skin and oral treatment for 14 days on scalp.
Scabies, Head Lice: 24 hours after appropriate topical management.
Conjunctivitis (Pink Eye): 24 hours of topical or oral medication and no discharge.
Molluscum Contagiosum: Upon treatment with curettage and hyfrecator, may cover with biooclusive and wrestle immediately.

Note to Appropriate Health-Care Professionals: Non-contagious lesions do not require treatment prior to return to participation (e.g. eczema, psoriasis, etc.). Please familiarize yourself with NFHS Wrestling Rules 4-2-3, 4-2-4 and 4-2-5 which states:

> *"**ART. 3** . . . If a participant is suspected by the referee or coach of having a communicable skin disease or any other condition that makes participation appear inadvisable, the coach shall provide current written documentation as defined by the NFHS or the state associations, from an appropriate health-care professional stating that the suspected disease or condition is not communicable and that the athlete's participation would not be harmful to any opponent. This document shall be furnished at the weigh-in for the dual meet or tournament. The only exception would be if a designated, on-site meet appropriate health-care professional is present and is able to examine the wrestler either immediately prior to or immediately after the weigh-in. Covering a communicable condition shall not be considered acceptable and does not make the wrestler eligible to participate."*
>
> *"**ART. 4** . . . If a designated on-site meet appropriate health-care professional is present, he/she may overrule the diagnosis of the appropriate health-care professional signing the medical release form for a wrestler to participate or not participate with a particular skin condition."*
>
> *"**ART. 5** . . . A contestant may have documentation from an appropriate health-care professional only indicating a specific condition such as a birthmark or other non-communicable skin conditions such as psoriasis and eczema, and that documentation is valid for the duration of the season. It is valid with the understanding that a chronic condition could become secondarily infected and may require re-evaluation."*

Once a lesion is considered non-contagious, it may be covered to allow participation.

<u>Revised/Approved by NFHS SMAC – April 2019</u>

Match

Mat size

- 28-32 foot diameter
- 5 foot safety buffer

Match length

- HS 3x 2 min +OT
- College 3 min, 2 min, 2 min
- Strength, Endurance, Quickness, Resilience, Mobility, Flexibility, ***Technique***
- Grind: Danny Desin
- Beartooth team on strength and nutrition of a wrestler

Scoring: Take downs, escape, near fall, fall/pin

Tournaments

- exposure

Styles

- High School/College/Youth
    - Down position- shoulder strains and subluxation
    - Folkstyle
- International
    - Reward throws
    - Greco Roman
    - Freestyle

Medical Personnel

Injury time

HS: 2 min cumulative

College: 1.5 min cumulative

Necessitates speedy, accurate on mat evaluation

Blood time

Lacerations

Epistaxis

Wounds

HS: 5 min cumulative

Injury

- 3 periods of injury consideration
  - On mat
  - After match- continuation- day to day?
  - Seasonal
  - *Medical Forfeit

Injuries

- Epidemiology
  - 2.5/1000 athlete exposures
  - Higher injury rate in competition than practice
  - Standing Neutral highest percentage of injury- 39% HS, 42% College
  - Youth: hand, wrist and finger injuries most common
  - HS: Shoulder most common 18-24% of injuries
  - College: Knee 25%

  - Over 25% HS and College injuries resulted in over 3 wk sport loss

Knee

Dr. Bowler, Travis Sherman, and Ryan Roche

Dr. Hart

Shoulder

- Dr. Elliott, Levi Oblander, and MacKinzie Sluggett

Elbow Dislocation

Head and Neck Injuries

- Rules and officiating have been preventative
- Neck strains are common
  - Head is often used as leverage and muscular overuse/fatigue develop over tournaments
- NEXUS and Canadian C-spine rules
  - 99-100% sensitive to significant c-spine injuries
- Concussion
  - Officials immediately stop match
  - 5 min vs unlimited head and neck injury time
    - “blue tent”
  - Managed by current strategies, which includes no same-day return and min 5 RTP progression
  - Choked out- mechanism matters
    - Rules to prevent
    - Recovery allows return to wrestling


PENN
STATE

Infection/Illness

Grind

Nutritionally depleted- total calories and quality calories

“make weight”

dehydration

Poor sleep

Little recovery time

Intense tournaments

Effects of Intense - Exhaustive exercise on Immunity

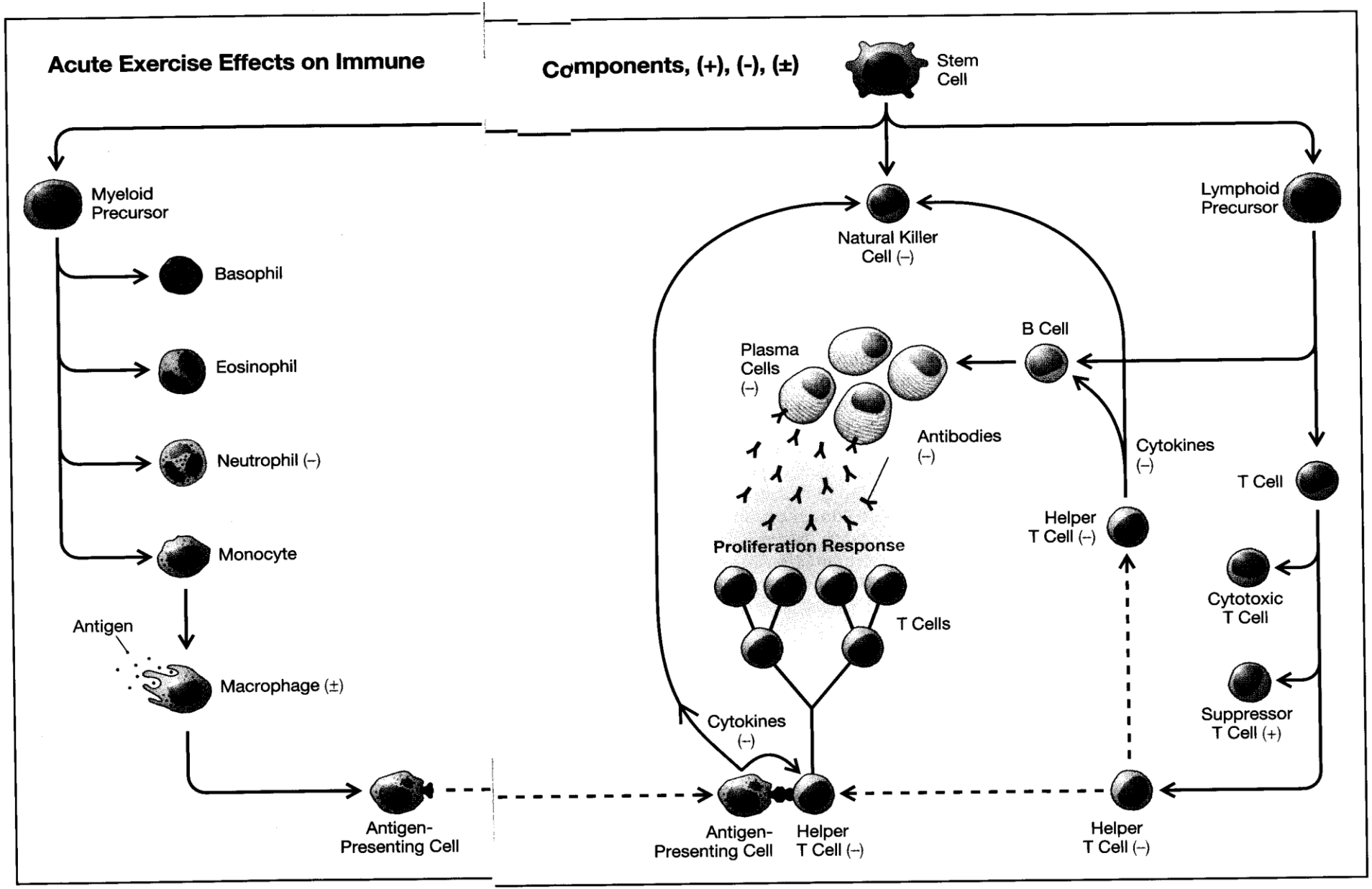
1. NK cell count and activity burst / drop
2. Macrophage burst / drop
3. CD4: CD8 ratio drops
4. Impaired Neutrophil function
5. Effect on cytokine production unclear
6. IgA & IgG concentrations drop

-Effects last 3-72 hours

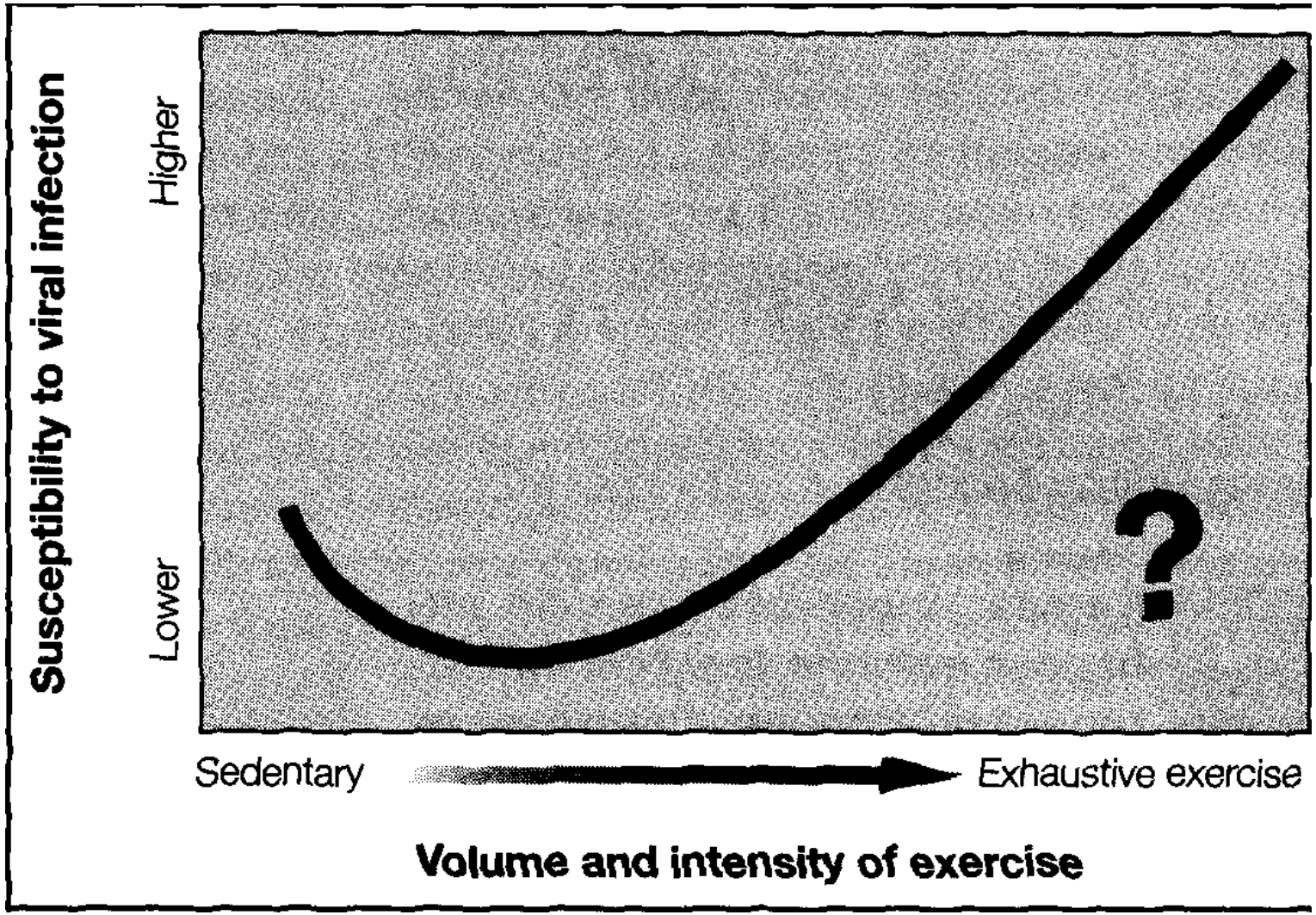
Effects of repeated moderate exercise on Immunity

1. NK cell count and activity increases
2. Macrophage function unchanged
3. CD4: CD8 ratio changes unknown
4. Neutrophil function unknown
5. Effect on cytokine production unclear
6. IgA & IgG concentrations unchanged

Immunology Review & Exercise



Theory of Susceptibility vs. Exercise Intensity



Exercise Effects on the Immune System

Good data to show exhaustive efforts impair immune system

Some support that moderate levels of exercise improves immune function

Important to care for other factors that affect immune system: sleep, nutrition, fresh-air, etc.

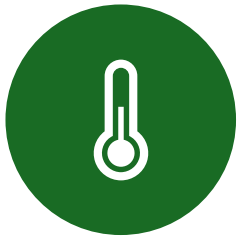
? Weight cutting worth it?

Effect of fever on the athlete's performance

- Decreased strength
- Decreased aerobic power
- Decreased endurance
- Decreased coordination
- Decreased concentration
- Decreased exercise capacity
- Increased insensible fluid loss
- Increased overall systemic metabolism
- ALL CAN LEAD TO INJURY and POOR PERFORMANCE

Effect of fever on the athlete's physiology

INCREASED CARDIOPULMONARY EFFORT WITH REDUCTION IN PEAK EXERCISE CAPACITY



ABNORMAL TEMPERATURE REGULATION

ABNORMAL PULMONARY FUNCTION

EARLY MUSCLE FATIGUE & DECREASED ISOMETRIC STRENGTH

DECREASED DESIRE (PSYCHOLOGICAL)

General Recommendations for Febrile Athlete's Participation

1

Avoid strenuous conditioning and competition during the febrile state (100.4 F or 38 C)

2

Avoid strenuous conditioning and competition in presence of marked generalized symptoms (severe malaise, myalgias, SOB, weakness, cough, diarrhea, vomiting)

3

Level of exercise on return varies according to severity of illness and length of time away.

The Febrile Athlete

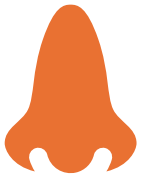
NO ABSOLUTE TEMPERATURE LEVEL AT WHICH AN INDIVIDUAL SHOULD NOT PARTICIPATE

FEVER DOES NOT ITSELF EXCLUDE ATHLETE FROM PARTICIPATION, BUT DOES INDICATE SYSTEMIC RESPONSE TO ILLNESS WHICH MAY EXCLUDE THE ATHLETE

FEBRILE STATE RESULTS IN PHYSIOLOGIC AND PSYCHOLOGIC IMPAIRMENT THAT MAY INCREASE RISK OF INJURY

CONSIDER ANTIPYRETIC AND EVALUATION OF PERSISTENT SYMPTOMS

“NECK CHECK” for stubborn athletes



Symptoms above the neck (rhinorrhea, headache, congestion, sore throat): athlete goes at 50% for a few minutes, if clears continue at 50% or gradually increase the intensity.

Symptoms below the neck (myalgia, arthralgia, vomiting, diarrhea, fever, cough) means do not train until symptoms resolve.

As in every topic in SM- there are exceptions

Conclusive studies are lacking

Diseases Commonly Seen in Athletes