

What's Running Around the Gym?

NYSCHA October 2015

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NYSCHA

October 30, 2015

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The Gym / Training Room

- NCAA.org
- Health & Safety
- NCAA Sports
Medicine Handbook
- Guideline 2.J Skin
Infections
- Guideline 2.S Sun
Protection



National Collegiate Athletic Association

- Baseball
- Basketball
- Beach Volleyball
- Bowling
- Cross Country
- Fencing
- Field hockey
- Football
- Golf
- Gymnastics
- Ice Hockey
- Lacrosse
- Rifle
- Rowing
- Skiing
- Soccer

NCAA Sport Cont.

- Softball
- Swimming & Diving
- Tennis
- Track & Field (I)
- Track & Field (O)
- Volleyball
- Water Polo
- Wrestling

Catagories of Skin Conditions & Examples

- 1. Bacterial Skin Infections
 - Impetigo
 - Erysipelas
 - Carbuncle
 - Staphylococcal disease, MRSA
 - Folliculitis (Generalized)
 - Hidradenitis suppurativa

- 2. Parasitic skin infections
 - Pediculosis
 - Scabies
- 3. Viral skin infections
 - Herpes simplex
 - Herpes zoster
 - Molluscum contagiosum
- 4. Fungal skin Infections
 - Tinea corporis (ringworm)
 - Tinea pedis (athlete's foot)

Superbugs

- MRSA : CA methicillin-resistant *Staphylococcus aureus*
- CRE : carbapenem-resistant enterobacteriaceae
- *Pseudomonas aeruginos*
- *Clostridium difficile*

Skin Infections

- Skin-to-skin contact
- Skin-to-surface contact
 - practice/compete on turf or mats
 - equipment – helmets & uniforms
 - training machines
 - locker rooms, benches, towels
- Frequent microabrasions portal of entry

Full Contact Sports

Physical contact impacts an opponent /
requires tackling / blocking/ hitting a player

Hit or collide with great force

American football, wrestling, rugby, martial
arts, kickboxing

Limited Contact Sports

- Regular contact but with less force
- Basketball, association football

HEADLINES: MRSA

- NFL:
 - Daniel Fells recently
 - Cleveland Browns
 - Washington Red Skins
 - Buccaneers : Lawrence Tynes, kicker
-
- The first case of MRSA dates back to 1968, only 9 years after the synthesis of methicillin.

MRSA

- Physical contact
- Poor hygiene
- Shared facilities & equipment
- Especially team sports: football, wrestling, basketball, rugby

Abcesses, Furuncles(boils)& Carbuncles

- Furuncle:walled-off,deep and painful,firm or fluctuant mass enclosing a collection of pus
- Often evolves from a superficial folliculitis
- Carbuncle:deep interconnected aggregate of infected furuncles or abscessed follicles

Red, Hot, Swollen, Tender
Rubor, calor, tumor, dolor







Furuncle: concern scarring



- Often present complaining of a 'bug bite' or a 'spider bite'
- MRSA is usually a 'simple' skin infection
- Rx: lancing the abscess
- ? Antibiotics
- prevent deep tissue, bone, or blood infection

Rx of Abscess

- INCISION & DRAINAGE
- C & S
- Iodoform gauze for packing large abscess
- Warn patient of signs and symptoms of advancing or systemic infection- fever, chills, malaise, spreading redness, increasing discomfort.

MRSA: Good hygiene

- 1. Use pump soap dispensers with anti-bacterial soap. Avoid bar soaps.
- 2. Don't share towels, personal items, clothing, equipment
- 3. Clean gym or sports equipment with disinfectant sprays before & after use
- 4. Report any cuts or abrasions to the coach or team trainer

Herpes Simplex Virus

- Type 1: HSV 1 commonly causes oral infections
- Type 2: HSV2 commonly causes genital infections

- Worldwide rates: 60% to 95% of adults
- HSV 1 acquired in childhood
- 70-80% population low socioeconomic status
- 40-60% population improved socioeconomic status
- HSV 2 16% population

HSV USA

- 57.7 % population infected with HSV 1
- 16.2% population infected with HSV 2
- Vaccine : unsuccessful in clinical trials
- Future : gene targeting approach

COLD SORES : HSV I

- “fever blisters” “herpes labialis”
- Primary infection: asymptomatic or severe gingivostomatitis/pharyngitis
- Recurrent infection: prodrome, grouped vesicles on an erythematous base, crust and heal in 7-8 days

Herpes : lip

- Grouped vesico-pustules on an erythematous base



Herpes simplex: herpetiform
(grouped vesicles on a red base)



Primary Phase



- Viral infection established in the nerve ganglion. Usually asymptomatic but can be symptomatic with gingivostomatitis, pharyngitis,

HSV Primary Infection



Source: Wolff K, Goldsmith LA, Katz SI, Gilchrist BA, Fisher AD, Lefell DA
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HSV Primary Infection



Secondary Phase

- Recurrent disease at the same site
- Intraoral recurrences are rare
- Usually non scarring unless secondary infection / impetigo
- Frequency of infections tend to decrease with time

Secondary phase cont.

- Prodromal symptoms: itching, burning, tingling, then grouped vesicles on an erythematous base occur over 2-4 days, rupture and crust, then shed over the next 7-8 days, leaving a pink re-epithelized surface.
- Triggers: UVL on lips, menses, flu or other viral illness (“ fever blisters”)

HSV



HSV



Herpes simplex 2ndary impetigo:
note honey-combed crust



- HSV can be a cause of erythema multiforme and Stevens-Johnson Syndrome

Other sites via inoculation



- Herpetic whitlow : digit often of health care worker
- Herpes gladiatorum: cutaneous herpes in athletes involved in contact sports (esp. wrestlers)

- Herpetic whitlow
- Herpes gladiatorum
- Eczema herpeticum (Kaposi's varicelliform eruption): widespread dissemination of the virus on the skin of patients with severe skin diseases esp. atopic dermatitis

Herpetic whitlow



Herpes: grouped vesicles on an erythematous base



Herpes: Ear

- Herpes Gladiatorum
- Scrumpox
- Wrestlers herpes
 - 73% head
 - 42% extremities
 - 28% trunk
- Mat herpes
- Herpes rugbiorum



HSV Neck Herpes Gladiatorum



Herpes: inoculation



EDUCATION

- Contagion: direct contact
- Hygiene: towels, washcloths, eating utensils. FINGERS: self-hygiene concerns especially to the eye
- Trigger factors: lip sunscreen, dietary issues (arginine)
- CAN SHED VIRUS WHEN ASSYMPTOMATIC

Herpes simplex

- Recurrences
shedding of virus
- Asymptomatic
shedding
- Rx: episodic
- suppressive



Herpes Shedding

- HSV-2 genital 15-25% of days
- HSV-1 oral 6-33% of days
- HSV-1 genital 5% of days
- HSV-2 oral 1% days
- Frequency & severity of episodes decrease over time – become ‘perpetually asymptomatic’ – no longer experience outbreaks **BUT MAY STILL BE CONTAGIOUS**

L-lysine / arginine story

- L-lysine 500 mg bid
- Avoid high arginine foods such as beer, peanuts, chocolate, jello and legumes

Rx HSV

- Symptomatic: analgesics & topical anesthetics
- Antivirals : P.O.: acyclovir / valcyclovir/ famciclovir /
- Antivirals : topical: acyclovir / penciclovir / docosanol
- Antivirals : mucoadhesive buccal tablet
Sitavig 50mg buccal tablet (Lauriad technology)
- Hygiene:saran wrap trick for topical applic.

Rx HSV : Alternative Medicine & Dietary Supplements

- Echinacea
- Eleythero
- L-lysine
- Zinc : oral & topical
- Monolaurin bee products
- Licorice root cream
- Aloe vera
- Lemon balm

Suppressive Therapy HSV

- Acyclovir 400 mg B.I.D.
- 200 mg T.I.D.

- Valcyclovir 500mg Q.D. (<9 episodes/yr)
- 1000 mg Q.D. (>9 episodes/ yr)

Canker Sores / Aphthae

- Intraoral, recurrent, painful, 1-5 lesions, 2-10 mm, erythematous papular lesions that become necrotic round oval ulcers with a grayish- white fibropurulent membrane & bright red halo, heal 1-2 wks without scarring
- Some cases due to nutritional def.
(vit B2, B6. & B12, folic acid, Fe, Zn)

Aphthous Ulcer

- Intraoral
- Do not present a vesicular phase

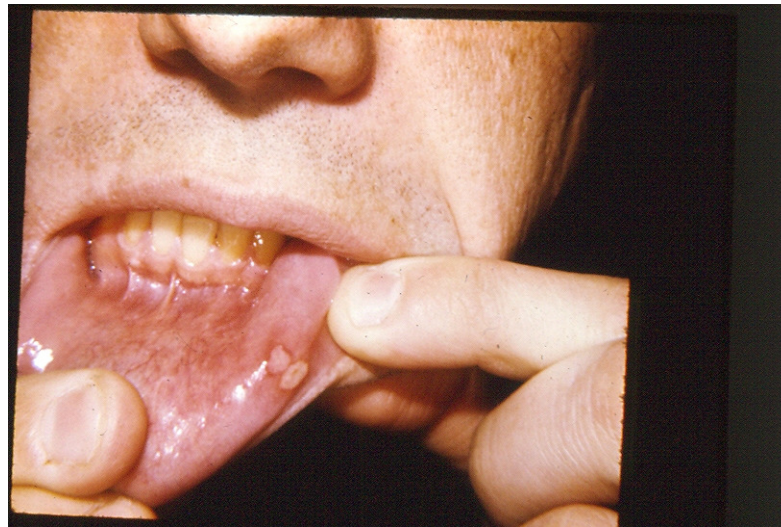


Aphthous Ulcer

- Fibropurulent membrane
- Red halo



Aphthae: intraoral



Rx aphthae

- ? Hypersensitivity to bacteria in the mouth
- Viscous xylocaine (care gag reflex)
- TCN mouthwashes (care preg females)
- Topical steroid-(Lidex Gel- fluocinonide 0.05%)
- Aphthasol: 5% amlexanox
- Soothing unsweetened apple juice mouth rinses , coat with pancake syrup pre-eating

Hand, Foot, and Mouth Disease

- Highly contagious viral infection that causes aphthae-like oral erosions & a vesicular eruption on the hands and feet
- Classically benign and self limited
- Coxsackie A 16 virus
- Can be due to enterovirus 71 and may have associated neurological syndromes (aseptic meningitis ,G-B Syndrome, acute transverse myelitis, polio-like syndrome, etc)

H F & M Disease



H F & M Disease

(can be painful, esp in children)



Acne

- Self esteem / appearance



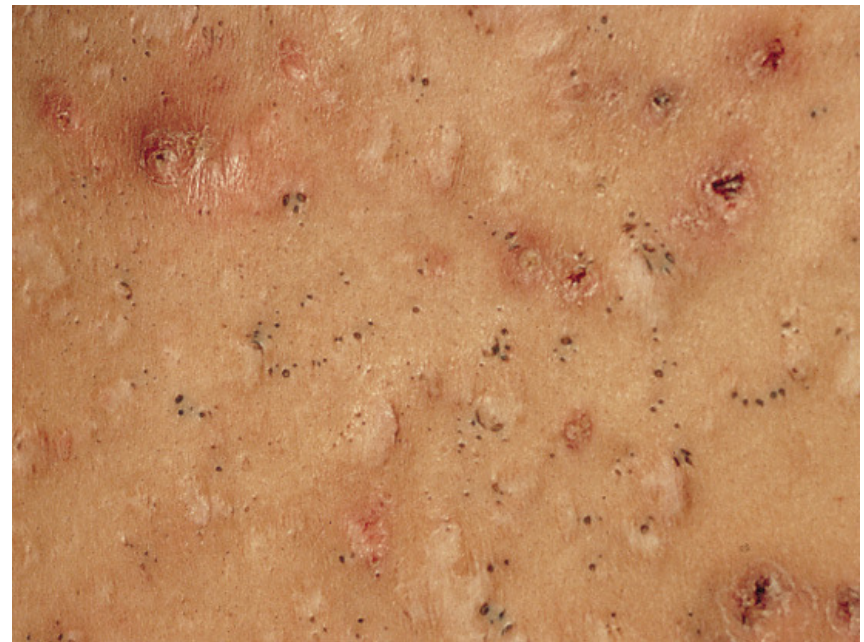
Acne

- Aggravated by sweat by sweat and friction



Acne

- Hallmark: comedone
- open comedone:
blackhead
- closed comedone:
white head
- Inflammatory papules,
pustules and nodules





Acne

- Severs cystic
- Consider oral retinoids: “Accutane”
- Musculoskeletal issues can influence performance



Severe Acne



Folliculitis



- Dome shaped pustules with small erythematous halos arise in a follicle

Folliculitis



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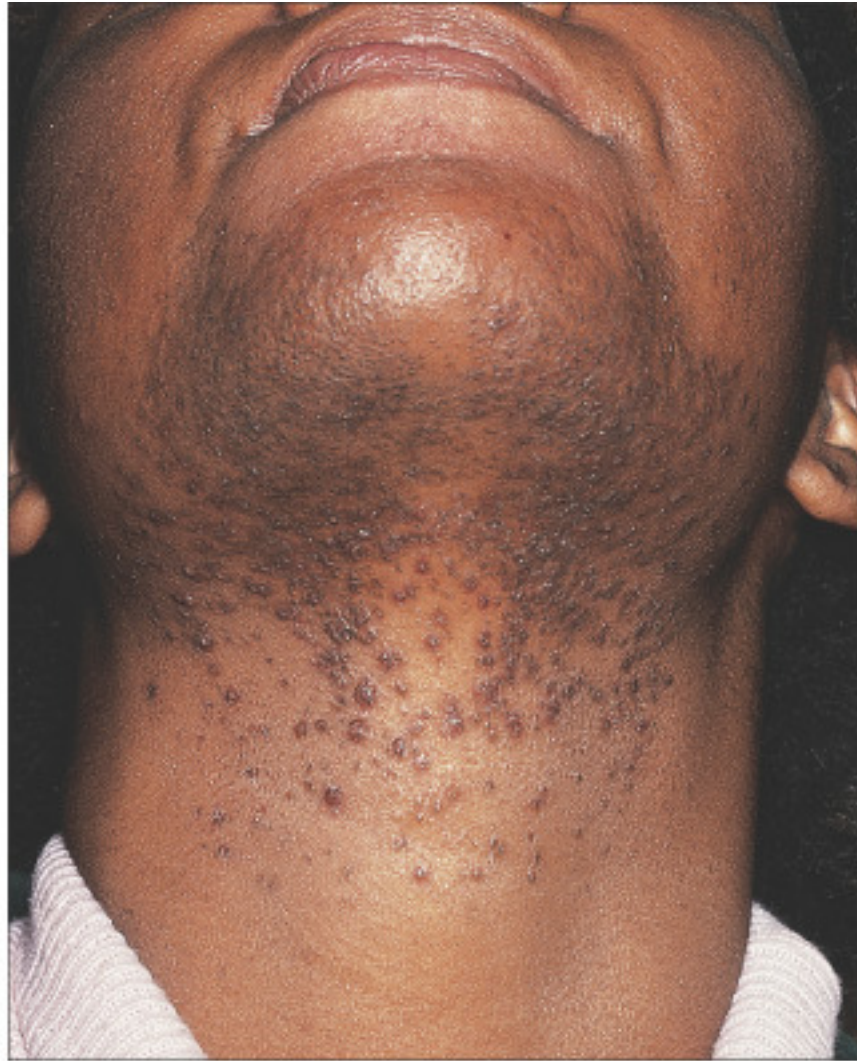
Folliculitis



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Source: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ:
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Pseudofolliculitis



Frictional / Mechanical Acne

Sports Induced Acne

- Chin- chin strap
- Forehead – sweat bands / helmets
- Shoulders & upper back – shoulder pads
- Spandex sports wear

Chronic friction & pressure leads to inflammatory papules

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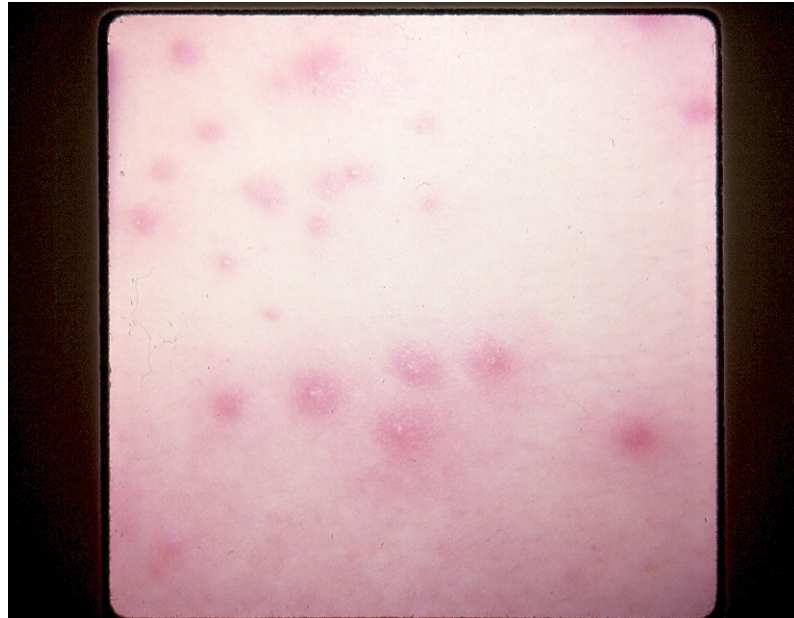


- Keep skin separated from nonpourous material
- Cotton barrier: T-shirt
- Salicylic acid washes / benzoyl peroxide topically / antibiotics topically

Hot Tub Folliculitis

- Gram negative Pseudomonas
- Improperly sanitized hot tubs
- Tender- sore- hurt
- Erythematous PAPULES and pustules
- Trunk/torso: under swimwear

Hot Tub Folliculitis: pustules



Hot Tub Folliculitis



Pseudomonas Folliculitis: Hot Tub or Whirlpool: often tender

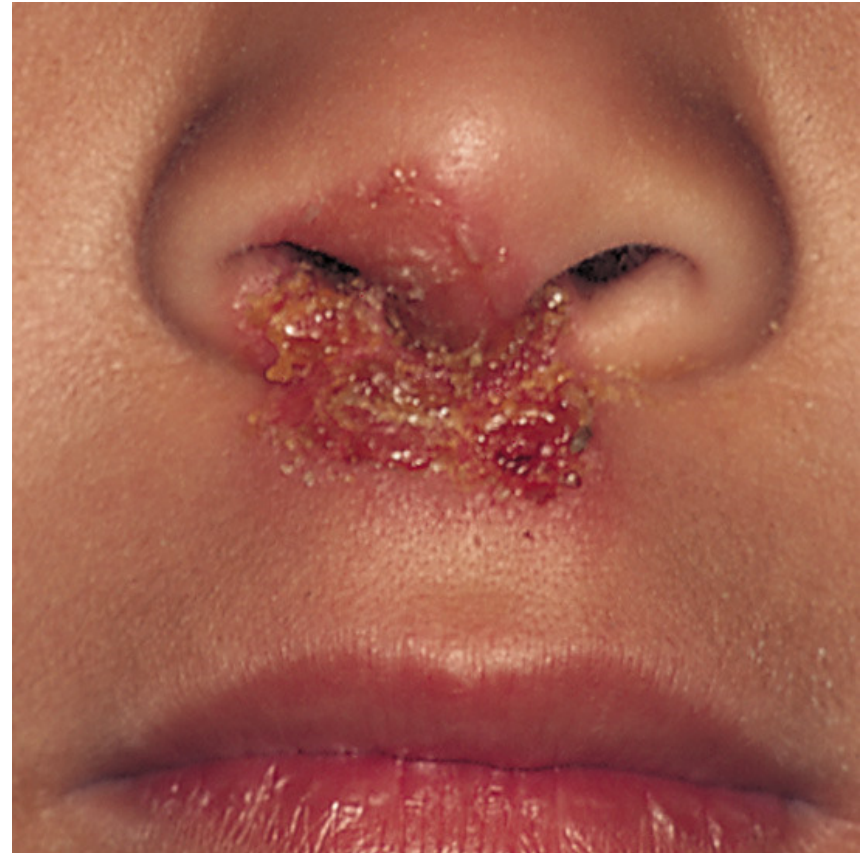


Rx Pseudomonas Folliculitis

- None: self limited (resolves in 5 days)
- Rx hot tub / whirlpool
- Ciprofloxacin 500mg to 750 mg b.i.d. for 5 - 10 days

Impetigo

- Vesicles or pustules rupture easily exposing red moist base
- Firmly adherent crust is honey-yellow color
- Lesions extend radially with little surrounding erythema
- Satellite lesions



Impetigo



Impetigo

- Streptococcus pyogenes or staphylococcus aureus or combination
- Rx localized: mupirocin 2% ointment or cream
- Rx extensive: p.o. antibiotics



Dermatophytoses / Tineas (superficial mycoses of the skin)

- Minimal , if any, inflammation:
 - Tinea versicolor
- Inflammatory response common:
 - Tinea capitis (ringworm of the scalp): scalp
 - Tinea barbae (barbers' itch): beard
 - Tinea faciei: face
 - Tinea corporis (ringworm): body
 - Tinea cruris (jock itch): groin
 - Tinea manuum: hand
 - Tinea pedis (athlete's foot): feet
 - Cutaneous candidiasis

Dermatophytoses

- Caused by dermatophytes:
 - Microsporum
 - Trichophyton
 - Epidermophyton
- Involves keratin containing structures:
 - stratum corneum
 - hair
 - nails

Tinea Cruris: KOH active edge



Tinea Corporis



Tinea Corporis



Tinea faciae

- KOH active edge



Tinea faciei: active edge (KOH)



Tinea Pedis



Tinea Pedis



Tinea Pedis



Interdigital Tinea Pedis



Source: Wolff K, Fitzpatrick JA, Katz DL, Gilchrist BA, Paller AS, Laffell SJ
Fitzpatrick's Dermatology in General Medicine, 7th Edition. <http://www.accessmedicine.com>
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Interdigital Tinea Pedis



Inflammatory tinea pedis



- Anthropophilic
- Zoophilic
- Geophilic

KOH blister roof



Tinea Unguis



Tinea Unguis

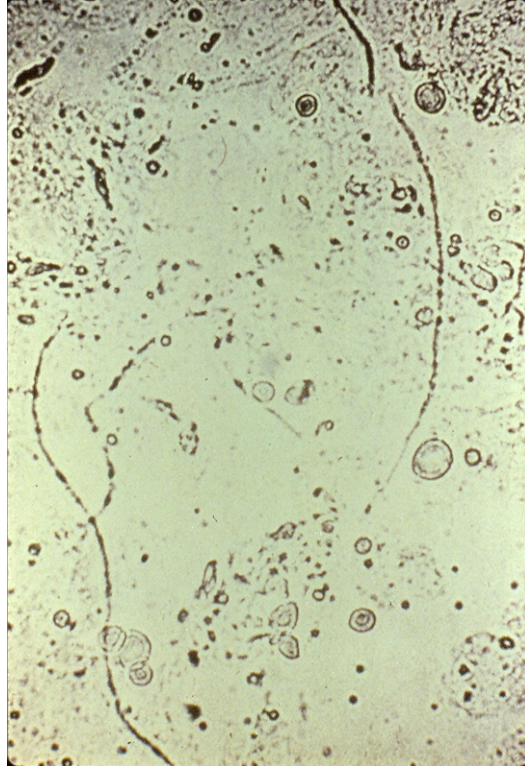
- Tinea of toenails most frequently affects the great toe
- 5th toenail thickening generally a reactive process to chronic pressure and trauma-
'lichen simplex chronicus-like process



Tinea Unguis



KOH



Rx tinea

- Function of site: skin, hair, nails
- Topical antifungals
- Oral antifungals



Tinea Versicolor: fungus of many colors



Tinea Versicolor : red



Tinea Versicolor (tan)

- Caused by a normal yeast/fungus of human skin
- *Malassezia furfur*
Pityrosporum
obicularie



Tinea Versicolor: reddish tan



Tinea Versicolor (white) : sunexposure can accentuate



Source: Wolff K, Johnson RA: Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology, 5th Edition; <http://www.accessmedicine.com>
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Tinea Versicolor (white)

- Especially the torso
- Generally asymptomatic
occasionally pruritic



Tinea Versicolor (brown)



Tinea Versicolor

- ALWAYS A FINE SCALE

Papulo-squamous disease

Not infectious

Rx topical antifungals
oral antifungals

Zinc: ZNP bar

Continuous hot moist
skin: chest & back

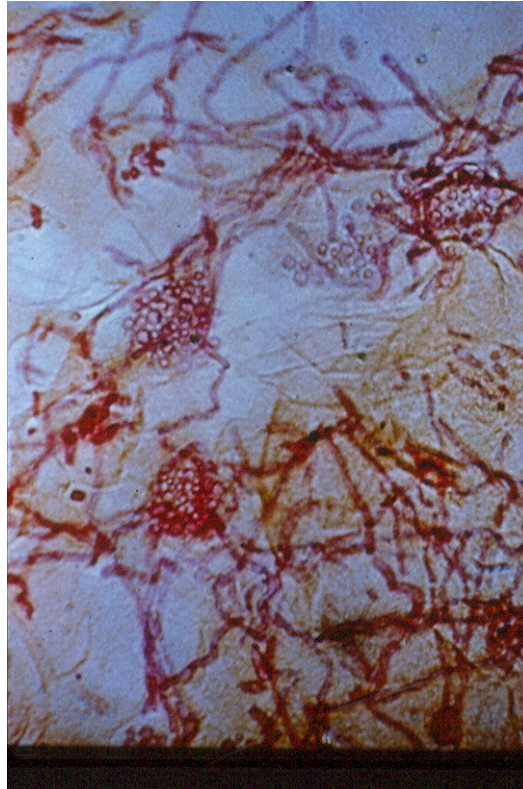


Tinea Versicolor

- Take a piece of clear scotch tape- press against skin- place on glass slide and look under microscope for clusters/groups of round spores
- Traditional KOH

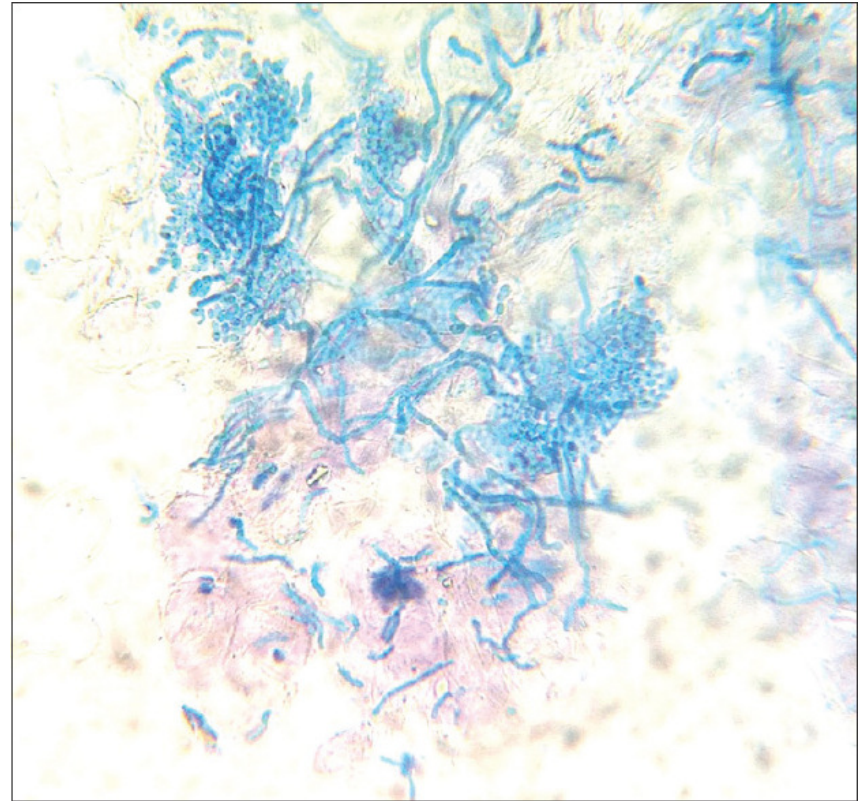


KOH Tinea versicolor :
“spaghetti & meatballs”



Tinea Versicolor

- Dimorphic:
- Yeast phase: clusters of spores ('meatballs')
- Hyphae phase: 'spaghetti'



Pityriasis rosea

- Viral eruption / spring & fall / young adults
- Herald patch (mother patch) followed by a shower of oval lesions along skin lines
- Collerate of scale
- Mostly on torso
- Asymptomatic to mild itching
- Self limited

Pityriasis Rosea



Warts

- Not a performance issue



Warts

- Can be a performance issue



Warts



Wart: Rx can create a wound



NCAA: verrucae (wart)

- Wrestlers with multiple verrucae plana or verrucae vulgaris must have the lesions “adequately covered”

Warts



Flat Warts : Verrucae Plana

- How do you adequately cover these?



Digitate / Filiform Verrucae

- Wrestlers with multiple digitate warts of their face will be disqualified if the infected areas cannot be covered with a mask
- Solitary or scattered lesions may be curetted but can not be seeping

Plantar Warts



Warts

- Can be a performance issue



Molluscum Contagiosum

- Lesions must be curetted or removed before the meet or tournament : WOUND
- Solitary or localized clustered lesions can be covered with a gas impermeable dressing pre-wrapped & stretch tape anchored & cannot be dislodged



Molluscum

- The only way that coverage ensures prevention of transmission is if the molluscum is on the trunk or uppermost thighs, which are assured of remaining covered with clothing
- Band-Aides are not sufficient



Molluscum Contagiosum



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Source: Wolff K, Johnson RA: Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology, 8th Edition: <http://www.accessmedicine.com>

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Herpes Zoster

- Skin lesions must be surmounted by a **FIRM ADHERENT CRUST** at meet or tournament time and have no evidence of secondary infection

Hidradenitis suppurativa

- Painful chronic disease of the apocrine glands: groin, axilla & mammary line
- Wrestlers **WILL BE DISQUALIFIED** if extensive or purulent draining lesions present
- Extensive or purulent draining lesions shall not be covered to allow participation

Rx Hidradenitis suppurativa

- Proper hygiene
- Topical & oral antibiotics
- Retinoids
- Anti-tumor necrosis factor-alpha agents
- Hormonal therapy
- Decrease bacterial colonization: antiseptic cleansers (chlorhexidine)
- Pyrithione zinc

Pediculosis

- Wrestlers must be treated with appropriate pediculicide and re-examined for completeness of response before wrestling
- Capitis:
- Pubis: groin, axilla and eyelashes
- Corporis: in bedding and clothing
- Vagabond's Disease

Scabies

- Wrestler must have negative scabies prep at meet or tournament time
- Finding a mite is like a “needle in a hay stack”

Open Wounds & Infectious Skin Conditions

- Cannot be adequately protected: cause for medical disqualification from practice or competition.
- “adequately protected” : the wound or skin condition has been deemed as noninfectious and adequately treated as deemed appropriate by a health care provider and is able to be properly covered

“Properly Covered”

- Skin infection is covered by a securely attached bandage or dressing that will contain all drainage and will remain intact throughout the sport activity
- Noncontagious/noninfectious skin conditions : “wounds”: covered with a gas impermeable dressing, pre-wrap and stretch tape that is properly anchored and cannot be dislodged

2-way Street: the Athlete and their Competitor

- A health care provider might excuse a student-athlete if the activity poses a risk to the health of the INFECTED athlete (such as injury to the infected area) even though the infection can be properly covered.

Bandages & Dressings

Remember bandages & dressing are
BIOHAZARD WASTE

The Gym / Training Room

- Let's leave the gym / locker room & training room and see what happens during competition



What is the most common athletic injury?

- A knee ?
- An ankle ?
- A shoulder ?
- A hamstring ?
- An Achilles tendon ?

- THE UBIQUITOUS SKIN BLISTER !!!!!

Friction Blister

- Skin layers of different types of tissues are pulled by frictional forces created during activity
- Skin layers separate and hydrostatic pressure pushes fluid into the open space between those layers



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Ability to compete can be significantly reduced or halted

- When skin is moist, rubbing causes greater frictional pressure than when the skin is dry
- Role of:
 - perspiration
 - maceration
 - shearing forces



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Friction Blisters

- Dry skin is best
- Socks : thick sock, 2 socks, polyester or acrylic better than cotton or wool
- Footwear: not too tight not too loose
- Moleskin: frictional forces are applied to the top piece of moleskin



Abrasions

- Road rash
- Mat burn
- Turf burn: esp. football
artificial turf has lower
coefficient of friction
than natural grass –
injury part abrasion
and part burn



Abrasion : Raspberry or Strawberry

- Trauma denudes the epidermis
- Exposes lower papillary & reticular dermis
- Punctate bleeding within a larger patch of tissue exudate



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Abrasion

- An abrasion of skin from friction/trauma with grass
- turf
- basketball courts
- sand
- pavement
- Use protective padding on commonly affected areas





WOUND CARE

- Usually superficial- if deep laceration will pressure dressing / sutures



WOUND CARE

- CLEAN wound
- Tetanus status-booster after 10 years



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WOUND CARE

- Do not use H₂O₂



WOUND CARE

- Keep moist
- Antibiotic Ointment
- Antiseptic Healing Ointment by Brave Soldier



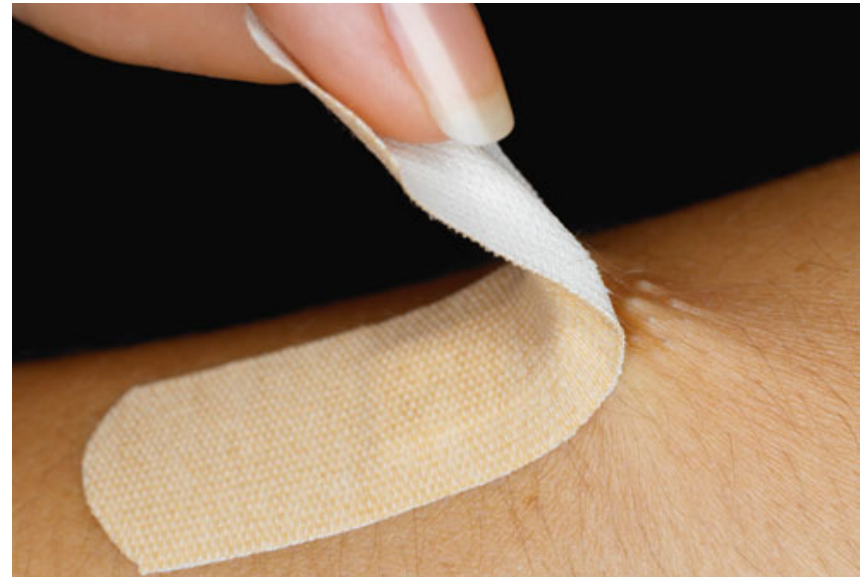
WOUND CARE

- Clean
- Medicate
- Cover



WOUND CARE

- Check wound
- Redress wound
- When removing tape do so slowly (don't rip it off)



CHAFFING

- From insidious long-term friction (not immediate, direct injury)
- Mechanical rubbing of skin by another body part or clothing
- Neck, axillia, inner thighs
- Especially in athletes with disproportionate large thigh muscles

Chaffing

- Often Tennis players & bicyclists
- Use biker or 'bun-hugger' shorts
elasticized fabric from waist to mid thigh
- Use sports shorts- low resistance
polyester fabric

Jogger's nipples

- Site specific chaffing
- Persistent friction at the nipples & areola
- More common in men- (women athletes wear soft protective sports bra)
- Marathon runners : blood stained shirts
- Ans: run without a shirt / cotton silk or soft fabric shirts / circular piece of tape over areola

Heat Rash : 'Prickly Heat'

- Athletes in hot humid conditions
- Blocked eccrine (sweat) ducts
- Red, irritated, itchy or 'prickly'
- Esp. where 2 surfaces rub Ex:inner thighs
- Rx: cool, dry environment
- calamine lotion (not ointments, creams or powders-they make a 'paste')

Calluses

- Skin compensatory attempt to protect itself from chronic friction
- Weight bearing area of soles of feet
- Palms of racket sports or golfers: chronic rubbing over distal metacarpal heads
- Usually asymptomatic
- May give a competitive edge in competing
Ex: gymnastics & weight-lifting

Rx calluses: if needed

- Prevention: moleskin pads or toe pads
- properly fitted gloves or shoes
- cushioned grips or rackets
- Parred
- Soak and apply salicylic acid prep
- Abrasive reduction of hyperkeratotic skin
- file / rasp / pumice stone

- Thickening of the skin on the foot
- Is it a callus
- a clavus
- a wart



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Corn/ Clavus/ PlantarKeratosi

- Punctate hyperkeratoses with deep central core
- Usually over a bony prominence
- Hard corns: external surface where drying occurs
- Soft corns: interdigital / maceration from sweating & moisture
- Point painful (may prevent competing)

Rx clavi

- Hard corns: parred
- salicylic acid preparations
- corn pad / 'cookie'pad

Differential Dx: PLANTAR WART

- look for blood puncta
- parring may cause bleeding & does not 'narrow' not like a piece of corn or upside down triangle

Athlete's nodules

- Surfer's nodules
- Nike nodules
- Skate bites (hockey)

Collagenomas: result of recurrent trauma & friction

- 0.5 to 4.0 cm asymptomatic flesh-colored nodules
- Dorsum of feet, knees or knuckles
- Surfers/boxers/ football players/ even marble players

Rower's rump

- Frictional form of lichen simplex chronicus
- From rowing while sitting on an unpadded seat

Ecchymoses / Hematomas



Bruises / Contusions

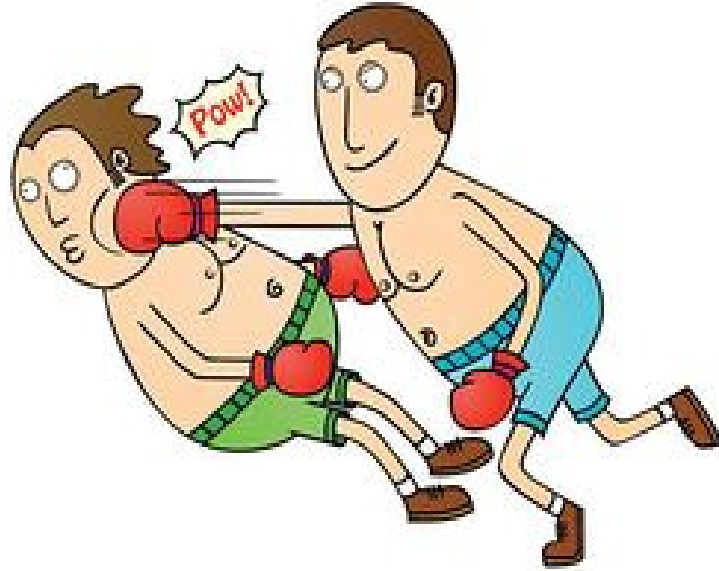


Hip contusion

- Slight swelling
- Red / ecchymotic
- Purplish
- Golden yellow / tan
- Hyperpigmentation
2ndary iron deposits
which tend to fade
over time unless
repetitive episodes of
trauma



- Ping Pong patches
 - Erythematous macules 1-2 cm diameter
 - Forearms & dorsal aspect of hands
 - High-velocity impact of the ping pong ball
- Paintball Purpura



Auricular Hematoma

- Pooled blood
- Shearing force type injury from ear rubbed or 'struck' tangentially (not stuck perpendicularly)
- Swollen & painful
- Boxers / wrestlers/ football players



Unique injury

- Ear: core structure cartilage & perichondrium & outer layer of skin
- Perichondrium peeled off cartilage with blood & serous fluids collecting in space
- Cartilage has NO BLOOD SUPPLY & ability to heal- “INERT”
- If drained fluid refills – no healing tissue (like half a piece of velcro)

- Do not apply pressure
 - causes blood & serous fluids to spread further
- Open – drain incision must be kept open to prevent reaccumulation of serous fluid (seroma)



Auricular Hematoma

Cauliflower Ear

- Calcium deposits & scar tissue greatly thicken ear structure
- Draws edges inward looks like cauliflower
- Use protective head gear



Tennis toe/Joggers toe/ Skiers toe

- Painful subungual hemorrhage
- First (great) & second toes most commonly
- Repetitive slippage of foot anteriorly against footwear
- Tennis/joggers/skiers/hikers/climbers/racquetball & basketball players



- Proper fitting footwear
- Toe pad
- Side-to-side strap in shoe to prevent anterior slippage
- May be painful – may need to drain blood under the nail plate



Golfers nails

- Splinter hemorrhages (linear dark streaks) of fingernails
- Golfer who grip the shaft of the club too tightly



Black heel (talon noir)

Black palm (tache noir)

- Black heel
 - Horizontal petechiae at upper edge of heel
 - Asymptomatic
 - Frequent start & stops
 - tennis & basketball
 - Shearing force of epidermis over rete pegs of papillary dermis
- Black palm
 - Weightlifters / gymnasts / golfers / tennis players / mountain climbers / baseball players
 - Pare with a scalpel & perform an occult blood screening test

Piezogenic papules

- Painful multiple 2 to 5 mm skin-colored papules
- Lateral or medial surfaces of heel
- Herniation of subdermal fat into the dermis
- Noticeable upon standing
- Long distance runners
- Piezogenic papules refer to symptomatic lesions
- 10-20% of the population have asymptomatic lesions
- Rx heel cup to reduce pain

Turf toe

- Artificial turf (football & soccer players)
- Acute tendonitis of the flexor and extensor tendons of the great toe
- Painful, red & swollen
- Attempts to stop quickly or 'cut' quickly on surfaces with little give

Hockey

- Note blood on ice!!
- Hepatitis B virus (HBV)
- HIV virus



Swimmer's shoulder

- Erythematous plaque of shoulder
- Irritation of unshaven face during freestyle swimming

Green Hair

- Uptake of copper by hair shaft
- Old copper pipes or copper-containing algicide
- Wash hair immediately after swimming
- Maintain pH pool water between 7.4 & 7.6
- Copper –chelating shampoos (Ultraswim or Metalex) for 30 minutes
- 3% hydrogen peroxide soaks for 3 hours

Allergic Contact Dermatitis

- “equipment” in contact with the skin
- swimmer goggles
- leather gloves

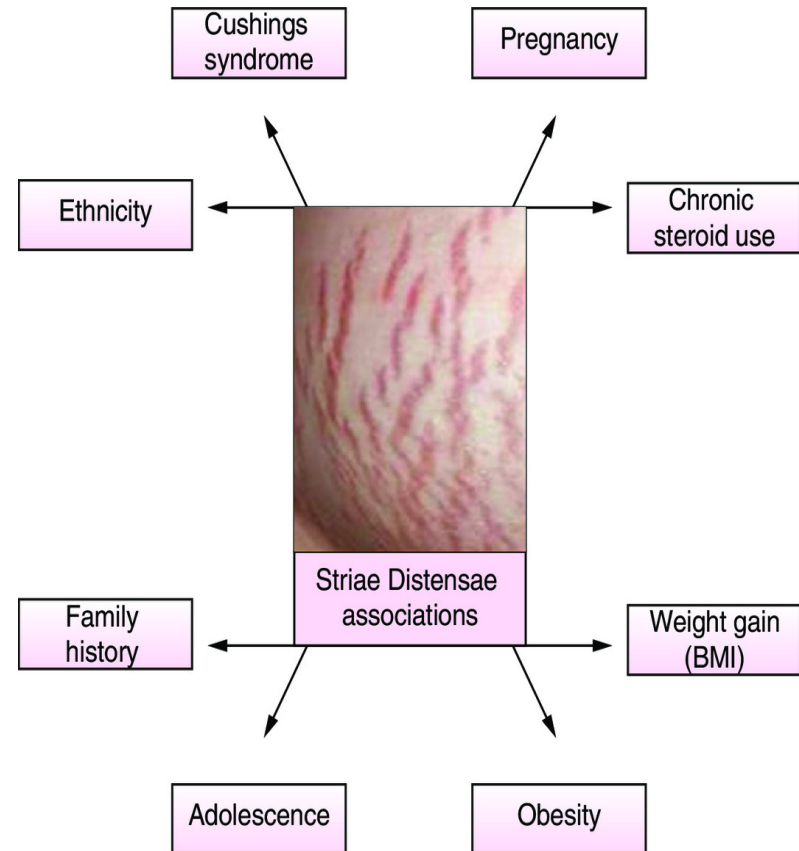


- Every sport has the potential for injury to an athlete
- **EVEN BOWLING**



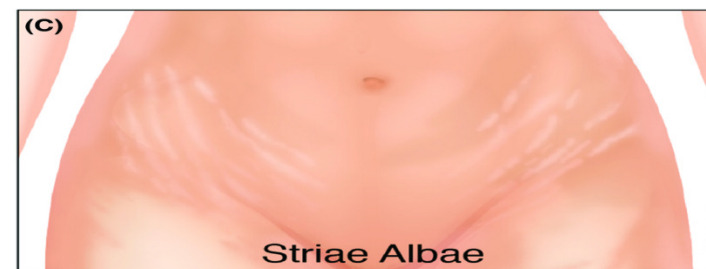
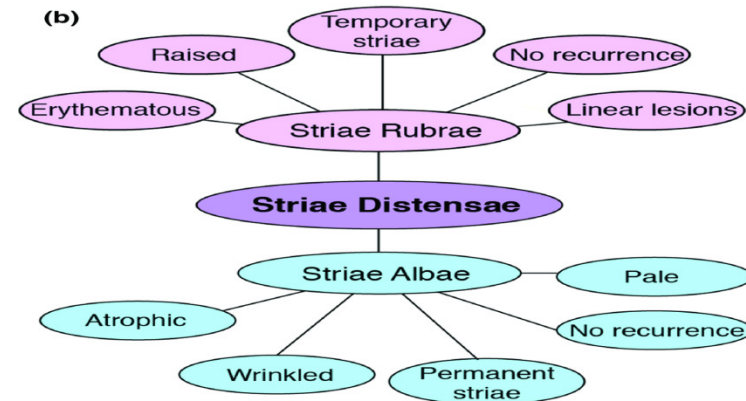
Striae distensae

- Ruptured elastic fibers in reticular dermis
- Perpendicular to lines of skin tension
- Rapid increase in size: pregnancy / weight lifters / weight gain / adolescence



Striae distensae

- Athletes: anterior shoulders / thighs / lower back
- Striae rubra : red
- Rx: topical tretinoin ?
- Striae alba : white
- Rx: cocoa butter / olive oil



Effects of Anabolic Steroids

- Atrophic striae
- Severe acne
- Receding hair line
- Hypertrichosis

Environmental injuries to the skin in sports participation

- Frostnip
- Frostbite
- Sunburn
- Phototoxicity
- Damage from long term sun exposure
- photoaging / actinic keratoses / basal cell carcinoma / squamous cell carcinoma /malignant melanoma

Cold Urticaria

- Acquired cold sensitive proteins (cryoglobulin or cryofibrinogen)
- Ice cube test (5 min)
- Full body exposure to cold, massive release of histamine & other immune mediators:
 - cause of sudden drowning deaths / ‘fainting in water’ not a good idea!!
 - “never swim alone “

SUN DAMAGE



© Fotosearch

Sunburn



Altitude & UVL



Skin Cancer

- Basal cell carcinoma :
(as seen here)
- Squamous cell carcinoma
- Melanoma



Sunscreen



Tanning Beds / Tanning Booths



Working out away from home / how safe is the hotel gym?

- Hotel equipment may be unfamiliar, poorly maintained & often understaffed to explain equipment or come to the rescue if something goes wrong
- 1. SCOPE IT OUT : how clean / litter on floor dirty mirrors, foul smell, lack of fresh towels
- 2. DRESS THE PART: long-sleeves, foot covers, towel on mat or equipment surface

- Use flip flops in the shower, don't sit naked on a bench after shower
- 3. CLEAN THE MACHINE:use disinfectant wipes many gyms provide for cleaning machines BEFORE & AFTER a workout
- 4. WASH YOUR HANDS THOROUGHLY wash with soap&water- DO TWICE – Apply glycerin-and-alcohol sanitizer/air dry (don't use a possibly 'germy' towel)

What's going on in the gym?



LOTS of things !!!!!



Young Doctor

- Educational program for athletes / coaches / trainers / staff
- Feel free to use this set of slides in an educational program

