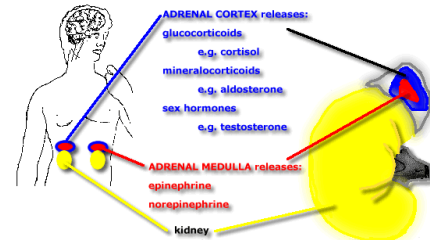


## Pathology Session #7

Adrenal glands  
Thyroid  
Dermatology

## Adrenals: Review



<http://www.flyfishinglevon.co.uk/salmon/year1/adrgln.gif>

## Adrenal Stress Stage #1: Alarm

Stress → adrenal stimulation  
= adrenaline release

- racing heart
- dry mouth
- anxiety
- the shakes
- diarrhea
- sweating

## Stage #2: Adrenal Fatigue

Underactive Adrenals (due to chronic stimulation)  
= low morning cortisol and low aldosterone

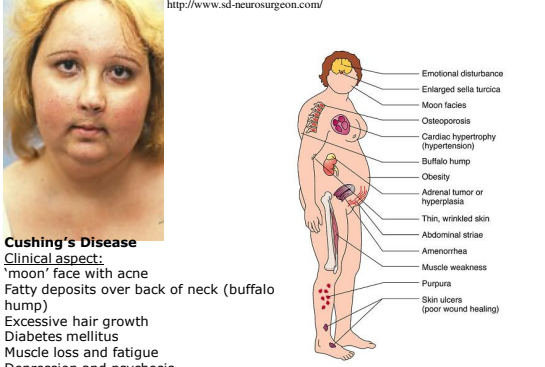
- hypotension (= $<95/65$ )
- vertigo or "head rush" upon standing (orthostatic hypotension)
- hypoglycemia
- the sweats
- fatigue
- depression
- salt cravings
- anorexia or nausea

## Adrenal-supportive Lifestyle (for individuals presenting with adrenal fatigue)

- low sugar
  - no stimulants or depressants (caffeine, alcohol)
  - sea salt, dulse
  - EFAs
- Lifestyle:
- stay horizontal 12 hrs.
  - avoid strenuous exercise
  - avoid negativity (media) and energy-drainers

## Adrenal Supplementation

- B complex 50 mg
- Pantothenic acid 100mg-500mg
- Buffered C: 2000 mg+ to bowel tolerance
- L-tyrosine
- Licorice root tea
- Siberian ginseng
- Adrenal glandular



<http://www.sd-neurosurgeon.com/>

**Cushing's Disease**  
**Clinical aspect:**  
 'moon' face with acne  
 Fatty deposits over back of neck (buffalo hump)  
 Excessive hair growth  
 Diabetes mellitus  
 Muscle loss and fatigue  
 Depression and psychosis

**Etiology:** Cortisol-secreting pituitary tumour  
 OR longterm corticosteroid use

<https://courses.stu.qmul.ac.uk/5md/kb/resources/endocrinologyresource/21-36.JPG>

- Emotional disturbance
- Enlarged sella turcica
- Moon facies
- Osteoporosis
- Cardiac hypertrophy (hypertension)
- Buffalo hump
- Obesity
- Adrenal tumor or hyperplasia
- Thin, wrinkled skin
- Abdominal striae
- Amenorrhea
- Muscle weakness
- Purpura
- Skin ulcers (poor wound healing)

## Comparing Adrenal Pathologies

<p><b>Cushing's Disease</b>              Etiology: Excess corticosteroid exposure              (tumour /chronic cortisone use)  <u>Clinical aspect:</u>              -moon face              -Syndrome X triad              -sarcopenia (loss of muscle)              -buffalo hump              -hirsutism (excessive body hair)              -see also <i>long term effects of corticosteroids</i>  <u>Complications:</u>              Heart attack (MI), metastasis (if tumour)</p>	<p><b>Addison's Disease</b>              Etiology: cellular damage adrenals              (AI/tumour/infection)  <u>Clinical Aspect:</u>              -see <i>adrenal fatigue</i>              -patchy skin colour (face)              -weight loss  <u>Complications:</u>              Acute adrenal crisis</p>
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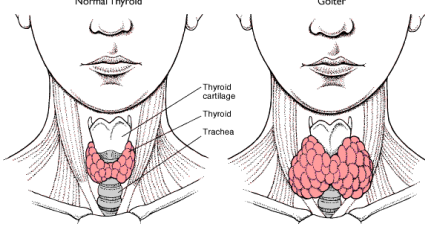
## Thyroid

- Controls speed of cellular processes throughout the body

brain → thyroid → tissues  
 TSH (Thyroid - Stimulating Hormone)    T4 → T3 (active thyroid hormone)

## Thyroid disorders


- A: Underactive:**
  - Hashimoto's thyroiditis (AI)
  - goiter
- B: Overactive**
  - Grave's disease (AI)
  - Toxic nodular goiter (thyrotoxicosis)



Normal Thyroid                      Goiter  
 Thyroid cartilage  
 Thyroid  
 Trachea

<http://www.tss.co.il/images/1/goiter.gif>

Goiter: an enlarged thyroid (hypertrophy)



adam.com

[http://phocinity.com/diseases/images/thyroid\\_enlargement.jpg](http://phocinity.com/diseases/images/thyroid_enlargement.jpg)

## Thyroid imbalance

Hyperthyroidism/  
Thyrotoxicosis and  
Grave's Disease (AI)

- Bulging eyes
- Profuse sweating, feverish
- Weight loss
- Anxiety
- Rapid heartbeat
- Goiter (possible)

Hypothyroidism/  
Hashimoto's disease

- Fatigue
- Obesity
- Constipation
- Headaches, depression
- Cold hands and feet
- Goiter (if I is insufficient)

## Medical/Lab Analysis

Hyperthyroidism:

- fast pulse
- Excessive T3 and T4
- LOW TSH  
(thyroid stimulating  
hormone)

• Hypothyroidism

- Slow pulse
- High cholesterol
- High triglycerides
- High blood pressure
- HIGH TSH
- LOW T4

## Dietary Approach

**Hyperthyroid**

- Anti-inflammatory diet
- RAW cruciferous vegetables, cooked soybeans
- avoid iodine
- increase calories +500
- high-potency multi (iodine free, if possible)

**Hypothyroid**

- Anti-inflammatory diet (if AI form)
- Extra zinc, selenium
- adequate iodine
- l-tyrosine
- avoid fluoride
- distilled or RO water

## Dermatological Pathologies

## Channels of Elimination

- Liver
- Lungs
- Kidneys
- Colon
- SKIN

## Acne

Acne Vulgaris

- infection of the skin by *p. acne bacteria*
- interaction of hormones, sebum (oil) and bacteria
- common sites: face, back, chest
- testosterone increases sebum, breakouts

## Acne Rosacea

- inflammatory
- aggravated by vasodilators: wine, vinegar, spices
- aggravated by weather: wind, sun
- may affect the eyes
- affects only face
- affects more women than men

**Subtype 1: FACIAL REDNESS**  
(erythematotelangiectatic rosacea) Flushing and persistent redness. Visible blood vessels may also appear.



**Subtype 2: BUMPS AND PIMPLES**  
(papulopustular rosacea) Persistent facial redness with bumps or pimples. Often seen following or with subtype 1.



**Subtype 3: SKIN THICKENING**  
(rhymatous rosacea) Skin thickening and enlargement, usually around the nose.



**Subtype 4: EYE IRRITATION**  
(ocular rosacea) Watery or bloodshot appearance, irritation, burning or stinging.



<http://www.rosacea.org>

## Eczema

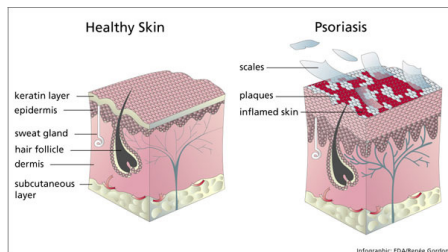


[http://z.about.com/d/menshealth/1/0/X/1/derm\\_22330014.jpg](http://z.about.com/d/menshealth/1/0/X/1/derm_22330014.jpg)

## Eczema (atopic dermatitis)

- inflammatory
- intensely itchy patches of tiny blisters
- weeping of clear-yellow exudate (fluid)
- final phase: flaking of the skin (healing)
- Signals an overactive immune system, reaction to stress (alarm mode)

## Psoriasis



[http://www.fda.gov/fdac/graphics/2004/graphics/psoriasis\\_sinfog.jpg](http://www.fda.gov/fdac/graphics/2004/graphics/psoriasis_sinfog.jpg)

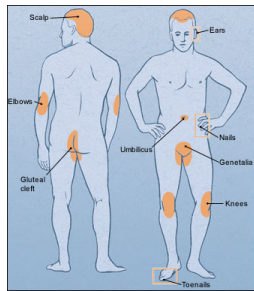
## Psoriasis



[http://www.psoriasisofscure.com/virtualtour/psoriasis\\_pictures/psoriasis\\_plaque.jpg](http://www.psoriasisofscure.com/virtualtour/psoriasis_pictures/psoriasis_plaque.jpg)

The scaly plaques of psoriasis occur due to unusually rapid turnover of skin cells.

## Common sites for psoriasis



[http://www.aafp.org/afp/20000201/725\\_f1.jpg](http://www.aafp.org/afp/20000201/725_f1.jpg)

## Nutritional Recommendations for Inflammatory Skin Conditions

- Anti-inflammatory diet
- extra omega-3
- Dysbiosis protocol
- Liver protocol
- Skin nutrients: ACEZ for healing
- Herbal anti-microbials
- Topical herbal creams/oils (e.g. tea tree oil)
- Sea buckthorn oil/soap (esp. for rosacea)

## Viral Skin Infections

### Herpes Simplex 1 and 2

- type 1: coldsore on/around mouth
- Type 2: genital blister(s); sexually transmitted

## Herpes Zoster (a.k.a 'shingles')

Clinical presentation: a single *dermatome*, typically on chest; knife-like pain at affected site

Risk factors: advanced age; previous infection with 'chicken pox', compromised immunity

Complications: eye damage (if affecting face), post-herpetic neuralgia (nerve damage and irritation)

*Herpes is a permanent infection once acquired, making itself known only when the immune system is weakened.*



[http://missinglink.ucsf.edu/ln/DermatologyGlossary/img/Dermatology%20Glossary/Glossary%20Clinical%20Images/Herpes\\_Zoster-ZZ.jpg](http://missinglink.ucsf.edu/ln/DermatologyGlossary/img/Dermatology%20Glossary/Glossary%20Clinical%20Images/Herpes_Zoster-ZZ.jpg)

## Prevention

- under-active immune protocol
- low-arginine diet
- Lysine inhibits viral replication
- Supplementary l-lysine:  
2000 mg preventively  
3000-5000 mg daily during outbreak

## Limit Arginine

Lysine-rich foods:

Milk

Eggs

Meats

Quinoa

Vegetables

Legumes

Arginine-rich foods:

AVOID:

Nuts

Wheat

Chocolate