A purple Passiflora flower with yellow stamens and a dark center, positioned in the top right corner of the slide.

# HPA Axis Herbal Essentials Part 2

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# Professor Kerry Bone



Kerry Bone co-founded MediHerb and is the company's Director of Research and Development. A practicing herbalist of 30 years, he is Principal of the Australian College of Phytotherapy and was appointed as an Adjunct Professor at New York Chiropractic College.

Kerry is a respected author of more than 30 scientific papers on herbal research. He has also written and co-written six popular books on herbal medicine, including his latest, the second edition of *Principles and Practice of Phytotherapy*, published in 2013 and recipient of the 2013 James A. Duke Botanical Literature Award.

Kerry was appointed to the American Botanical Council (ABC) Advisory Board in 2011 for his long-term support and contribution to the council's nonprofit educational mission. This appointment is well-earned recognition of Kerry's long-term commitment and outstanding contribution to herbal therapy.

# Key HPA Herbal Actions



- Adaptogens **conserve** adaptation energy

- Eleuthero
- Ashwagandha
- Rhodiola
- Schisandra



- Tonics increase or **release** adaptation energy
  - **Korean Ginseng**

Bone KM, Mills SY. *Principles and Practice of Phytotherapy: Modern Herbal Medicine*. 2<sup>nd</sup> Edition, Elsevier, UK, 2013



# Key HPA Herbal Actions



- Adrenal herbs **support and restore** the adrenal cortex under stress
  - Licorice
  - Rehmannia



# A Fresh Look at Tonics



- 'Tonic' has a long history in herbal therapy
- Definitions vary remarkably
- 'Tonic' is commonly misunderstood, including confusion with "adaptogen"
- Restores and/or maintains physiological functioning of an organ system leading to a feeling of well-being

# Key Herbs



- Ashwagandha
- Korean Ginseng
- Rhodiola
- Schisandra
- Eleutherococcus (indirectly)





# Ashwagandha



- An impressive clinical portfolio demonstrating tonic activity, benefits in anxiety and for male sexual function and enhancing mental performance
- Key trial of Ashwagandha in stressed people: reduced anxiety, morning serum cortisol, CRP
- Boosted DHEA
- High doses (at least 4 g/day) used in most trials



# Ashwagandha and Agitation



- 2014 systematic review located five clinical trials
- All trials gave positive results and used varying methods of assessment (against placebo mainly)
- Authors concluded Ashwagandha improved agitation and stress in all studies undertaken to date





# Ashwagandha: Male Tonic

- Ashwagandha, 5 g/day, improved testosterone levels in infertile men<sup>1,2</sup>
- Ashwagandha, 4 g/day, significantly boosted DHEA-S levels by 32.5% in a RCT of 130 stressed patients<sup>3</sup>

1. Ahmad MK, Mahdi AA, Shukla KK, et al. *Withania somnifera* improves semen quality by regulating reproductive hormone levels and oxidative stress in seminal plasma of infertile males. *Fertil Steril* 2010; **94**(3): 989-996
2. Mahdi AA, Shukla KK, Ahmad MK, et al. *Withania somnifera* improves semen quality in stress-related male fertility. *eCam* 2009; 8
3. Auddy B, Hazra J, Mitra A et al. A standardized *Withania somnifera* extract significantly reduces stress-related parameters in chronically stressed humans: A double-blind, randomized, placebo-controlled study. *J Am Nutraceutical Assoc* 2008;**11**(1): 50-56

# Korean Ginseng



- A highly valued Chinese tonic herb now widely consumed in the west
- Subject of numerous clinical trials
- Improved performance and well being, especially under stress
- Improved cognitive performance



# Korean Ginseng



- Improved immune system function
- Helped support heart health
- Supported healthy male sexual function
- Helped support healthy blood sugar metabolism





# Rhodiola



- Rhodiola root used in the traditional medicine of many countries including Russia, Scandinavia and Middle Asia
- Since 1969 has been included in official Russian medicine
- Regarded as a tonic and adaptogen and used to increase physical endurance, attention span, memory and work productivity, resistance to high altitude

1. Ganzera M et al. *Chem Pharm Bull* 2001; **49**: 465
2. Brown RP et al. *HerbalGram* 2002; **56**: 40
3. Darbinyan V et al. *Phytomedicine* 2000; **7**: 365

# Rhodiola: Key Constituents



- Rosavins (rosarin, rosavin and rosin) and salidroside
- Salidroside in a variety of species, some outside the Rhodiola genus (eg Salix or Willow)
- Rhodiola extracts are best standardized for both rosavins and salidroside
- Naturally occurring ratio of rosavins to salidroside in authentic root is approximately 3:1
- Other species with salidroside (but not rosavins) have been substituted for *R. rosea*<sup>1,2</sup>

1. Ganzera M et al. *Chem Pharm Bull* 2001; **49**: 465

2. Brown RP et al. *HerbalGram* 2002; **56**: 40

# Rhodiola: Indications



- Fatigue
- Physical stress
- Debility
- Improve mental performance
- Concentration
- Memory
- Failure to thrive
- Sexual function
- Support immune system health
- Recovery from challenge
- Tonic for the elderly
- Low mood

# Clinical Studies



- Improved physical and mental performance
- Improved physical performance in the tired and low mood
- Relieved fatigue





# Clinical Studies



- Improved symptoms and mental function in low mood
- Relieved symptoms of generalized anxiety
- Improved sexual function in men



# Ultra-weak Biophoton Emission



- Rhodiola vs Rhodiola/Eleuthero/Schisandra
- Ultra-weak photon emission measured on the dorsal side on their hand before and after 1 week
- Rhodiola group: significant decrease ( $p=0.027$ ) in photon emission in comparison with the other groups
- Significant decrease in fatigue in the Rhodiola group
- Placebo controlled, RCT,  $n=30$

# Schisandra



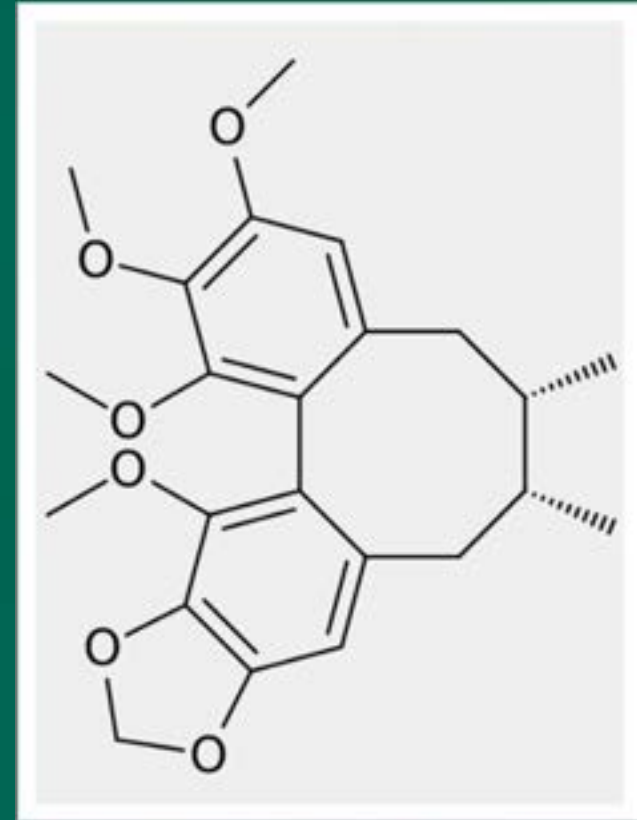
- Schisandra (*Schisandra chinensis*) fruit is indicated in traditional Chinese medicine (TCM) for a wide variety of conditions
- Quiets the spirit while calming and containing the Heart qi



# Schisandra Key Constituents



- Dibenzocyclooctene lignans (about 2% by weight) including schisandrins A to C and gomisin A
- Essential oil (about 3%)
- Fruit acids (malic, citric, tartaric)

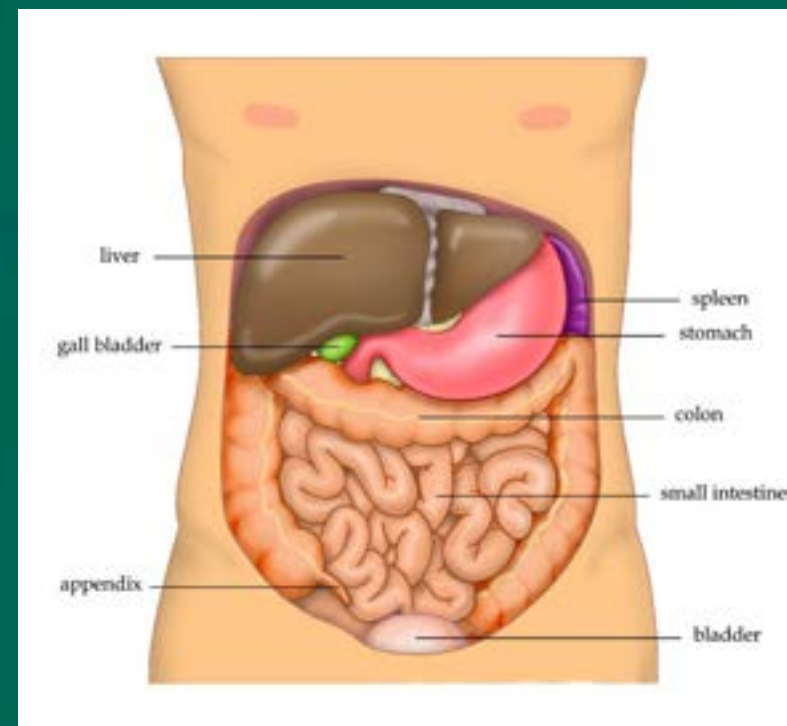




# Schisandra Indications



- Enhance phase I/II detoxification by liver
- Support healthy hepatic function
- Fatigue, physical stress



# Schisandra Indications



- To improve physical, exercise and mental performance and concentration
- Night sweats



# Early Russian Studies



- Demonstrated tonic and adaptogenic effects in nervous workers and patients
- Improved mental performance in healthy volunteers and workers
- Increased endurance and physical efficiency in volunteers



# Early Russian Studies



- Beneficial for patients with fatigue, exhaustion and reduced physical and mental performance
- Beneficial effect in patients with stress-induced, mild depression
- Provided a stimulant effect and improved mood



Panossian A, Wikman G. *J Ethnopharmacol* 2008; **118**(2): 183-212



# Key Products



- Rhodiola & Schisandra
- Rhodiola & Ginseng Complex
- Withania Complex
- Eleuthero
- Adrenal Complex
- Nevaton®
- Kava Forte
- Astragalus Complex



# Rhodiola + Schisandra



- Maintain feelings of general well-being when experiencing temporary stress
- Help the body adapt to the changes of everyday life
- Support the body's natural defenses against emotional and environmental stressors
- Support healthy liver function
- Support healthy nervous system function

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# Rhodiola + Schisandra



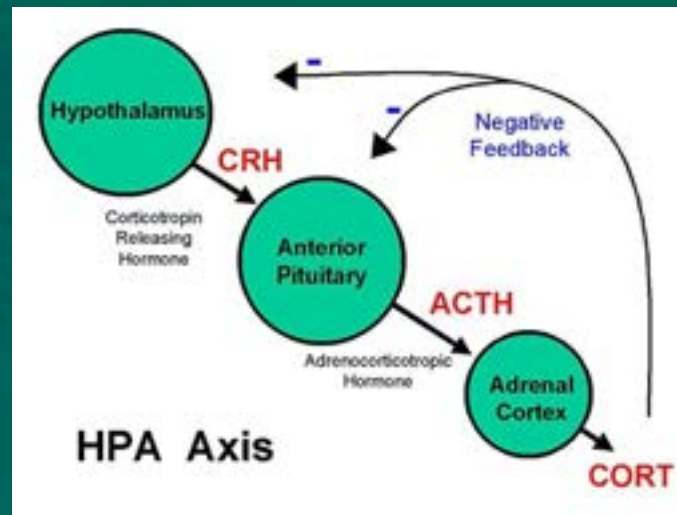
- Support healthy cognitive function
- Help maintain proper energy
- Help support healthy physical performance
- Help maintain healthy emotional balance
- Work as a tonic to benefit the entire body

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# Rhodiola + Schisandra



- HPA axis regulation
- Cortisol regulation
- Improvement in cortisol feedback mechanisms at the hypothalamus, anterior pituitary and perhaps the hippocampus



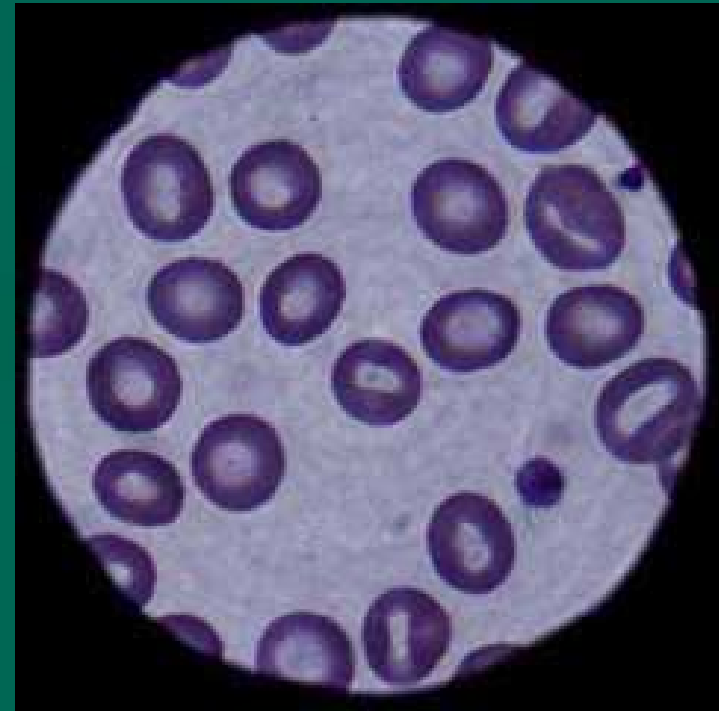
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# Rhodiola + Schisandra



- Upregulation of cellular defenses, including:
  - Heat shock protein 70
  - Phase I and II enzymes
- Cells in the body function more efficiently and effectively



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# Rhodiola & Schisandra



Rhodiola root 20:1 extract 150 mg  
from *Rhodiola rosea* root 3.0 g  
containing salidroside 1.5 mg  
and rosavins 4.5 mg

Schisandra fruit 6:1 extract 110 mg  
from *Schisandra chinensis*  
fruit 660 mg

Suggested Use: 1 tablet 2 – 4 times daily

# Rhodiola + Korean Ginseng



- Enhance mental clarity and support cognitive function
- Promote vitality and stamina
- Maintain proper energy
- Support physical endurance
- Maintain feelings of general well-being when experiencing temporary stress

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# Rhodiola + Korean Ginseng



- Help the body adapt to the changes of everyday life
- Support and maintain the body as it ages
- Support the body's natural defenses against emotional and environmental stressors

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# Rhodiola + Korean Ginseng



- HPA axis regulation
- Cortisol regulation
- Improvement in cortisol feedback mechanisms at the hypothalamus, anterior pituitary and perhaps the hippocampus

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# Rhodiola & Ginseng Complex



Rhodiola root 20:1 extract 150mg  
from *Rhodiola rosea* root 3.0 g  
Containing rosavins 4.5 mg and  
salidroside 1.5 mg

Korean Ginseng root 5:1 extract 100 mg  
from *Panax ginseng* root 500 mg  
Containing ginsenosides 8.4 mg

**Suggested Use:** 1 tablet 2 - 4 times daily

# Schisandra versus Eleuthero



- An interesting study by Berdyshev in 1995 compared the effects of Schisandra and *Eleutherococcus* in 357 sailors working under stress



- Eleuthero increased the tone of parasympathetic nervous system, whereas Schisandra increased the tone of the sympathetic nervous system

# Prescribing Differentials



## Depleted energy

- Suggested combinations: **Rhodiola & Ginseng Complex** or **Rhodiola & Schisandra**
- Most suited to parasympathetic dominance or where the person is sleeping long hours



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# Prescribing Differentials



## Depleted energy

- Good support for those with busy lives and who are under constant stress
- Best used with **Adrenal Complex, (Licorice and Rehmannia)**



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# Prescribing Differentials



## Immune system support

- Suggested combination: **Astragalus Complex** and possibly **Ashwagandha 1:1** or **Withania Complex**
- For those under constant stress
- For long-term immune system stress, not acute (in which case **Andrographis Complex** is used along with formulas that treat the system involved)



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# Prescribing Differentials



## Better adaptation to stress

- **Eleuthero** is the archetypal adaptogen
- Also has immune effects
- Can be recommended to the patient before they get to the stage of energy and immune depletion



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# Prescribing Differentials



## Better adaptation to stress

- **Eleuthero** is the healthy person's herb, for someone who is well and wants to stay well
- Combines well with **Echinacea Premium**
- Alternative option: **Rhodiola & Schisandra** where a more tonic action is needed



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# Prescribing Differentials



## Tired and wired

- Sympathetic dominance
- The key herb here is **Ashwagandha**
- **Withania Complex**
- **Ashwagandha 1:1**



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# Prescribing Differentials



## Tired and wired

- But it is well supported by **Eleuthero and Hawthorn** (especially if there are cardiovascular issues)
- Best combined with **Adrenal Complex (Licorice and Rehmannia)** (or just Rehmannia if hypertension is present)



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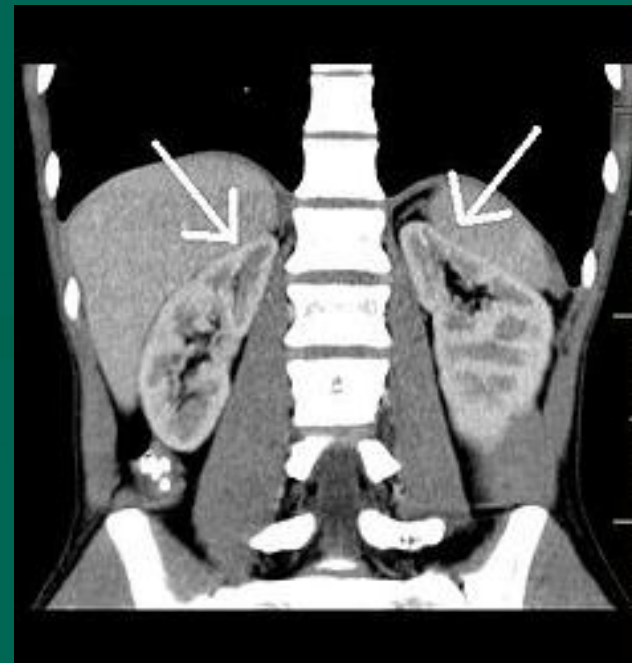


# Prescribing Differentials



## Fatigue

- Treat for **depleted energy** as outlined
- **Adrenal support** is a must
- If sustained stress is present treat as outlined



# Prescribing Differentials



## Fatigue

- Ginkgo Forte and Hawthorn to improve cardiovascular dynamics (and even Horsechestnut Complex)
- Support the nervous system with Kava Forte, Valerian Complex, St John's Wort 1.8g and others

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# Prescribing Differentials



## General Fatigue and Associated Minor Pain

- Generally more a “tired and wired” approach, but be guided by the case
- Again emphasize adrenal support
- Nervine tonics are important Neveton, Bacopa Complex, St John’s Wort 1.8g

Bone KM, Mills SY. *Principles and Practice of Phytotherapy: Modern Herbal Medicine*. 2nd Edition, Elsevier, UK, 2013, pp 311-313

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# Prescribing Differentials



## General Fatigue and Associated Minor Pain

- Nervous system calming herbs as well: Kava Forte, Valerian Complex
- Inflammatory response function and minor pain herbs: Rehmannia Complex, Boswellia Complex, Nervagesic
- The 5-point microcirculation protocol

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# Thank You

And special thanks to Lee Carroll  
and Michelle Morgan



# Questions

