

Mental Health for Pediatrics

**Presented by
Angela Hywood**

BHSc (CompMed, Nat),
DipBotMed, DipHom, DipCN,
DipNFM, MANTA, MNHAA



Disclaimer

Integria Healthcare and Standard Process® sponsor these webinars to provide health care information to practitioners and to provide them the opportunity to hear about the views, recommendations and experiences of other practitioners. Health-related information provided here is not a substitute of medical advice.

Practitioners making dietary supplement recommendations concerning specific health conditions, including mental health conditions, should always make certain they are acting within the scope of their practice and, if appropriate, working in concert with a properly licensed mental health care professional.

Integria, Standard Process and the speaker, Angela Hywood, have not evaluated the legal status of any products (except for Standard Process and MediHerb products), services or recommendations with respect to state or federal laws, including scope of practice.

Nothing in this presentation is a recommendation that herbal dietary supplements may be used to diagnose, treat, cure or prevent any disease, nor should this presentation be interpreted to do any of these things.

Integria, Standard Process and Angela Hywood do not and cannot accept responsibility for errors or omissions or for any consequences from applications of the information provided and make no warranty, expressed or implied, with respect to the information provided.

Recommendations for Standard Process and MediHerb product dosages are those of the speaker and sometimes different than the doses that appear on the product labels. Please refer to the product labels or to the product descriptions found in the product catalogs or on the website for Standard Process and MediHerb dosage recommendations.

Angela Hywood

Naturopathic Clinician

Angela Hywood is an experienced naturopathic clinician with over 25 years of clinical experience, specializing in integrative endocrinology, fertility, pregnancy care and had a special interest in mental health.

Prior to Angela's career in naturopathy, she studied at the School of Pharmacy, Curtin University of Technology in Perth, Western Australia and has a strong interest in herbal safety, particularly herb-drug interactions and pharmacology.

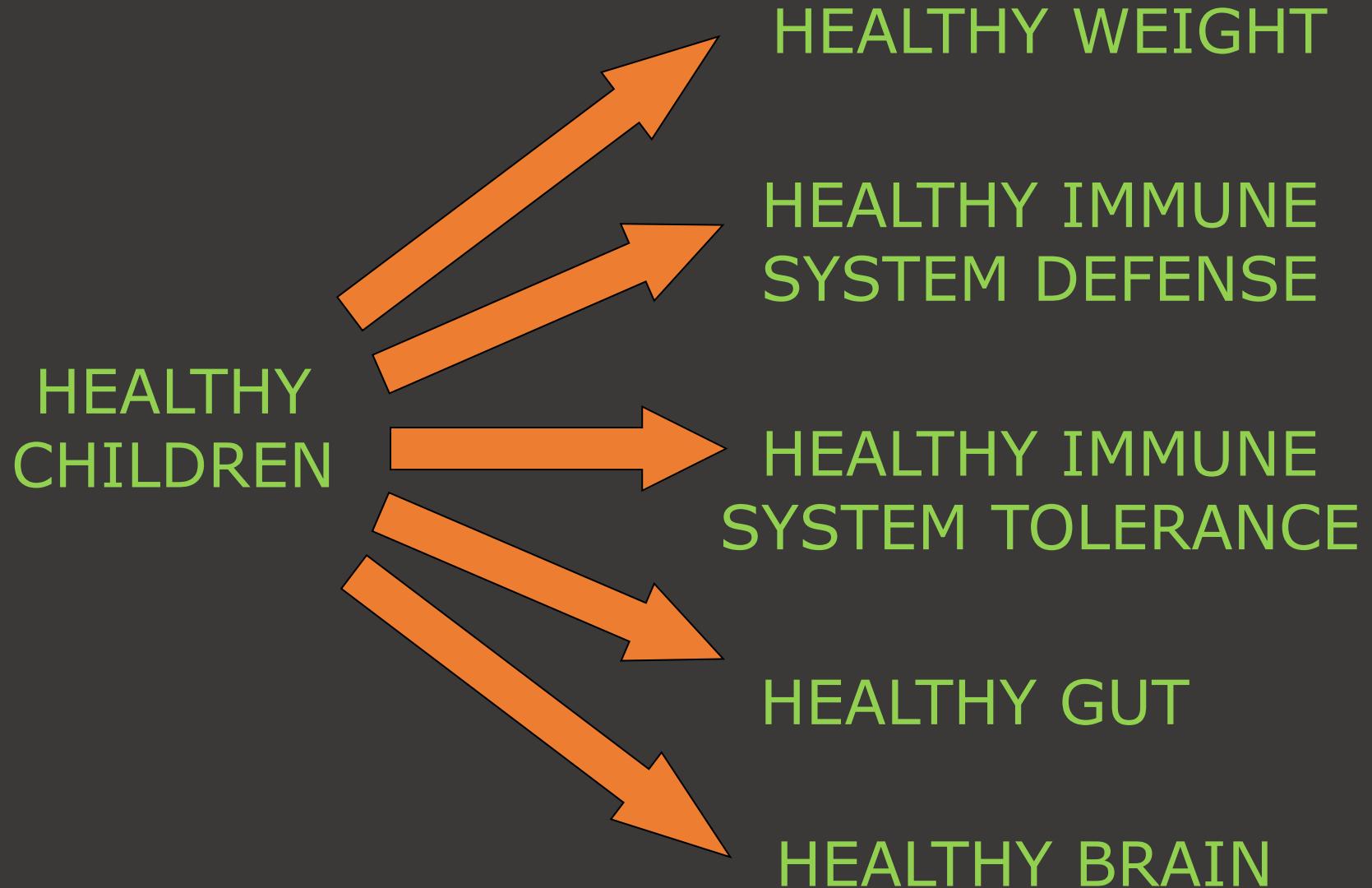
Angela is a well-known speaker at complementary and integrative medicine conferences both in Australia and internationally; and has published articles in complementary medicine journals and text books in Australia and the US

Angela's clinical passion in the art and science of herbal medicine, clinical nutrition, homoeopathy, whole food nutrition and lifestyle medicines are tailored into dynamic clinical programs for her patients.



General Consideration With Kids





The Impact Of Stress On Children



Anxiety Aliases

afraid agitated alarmed apprehensive
concern edgy **fearful** freaking out
fretful frightened frozen hesitant
nervous **overwhelmed** panicked petrified restless scared
stressed terrified thoughts racing troubled **uneasy**
worried

What Causes Anxiety Disorders?

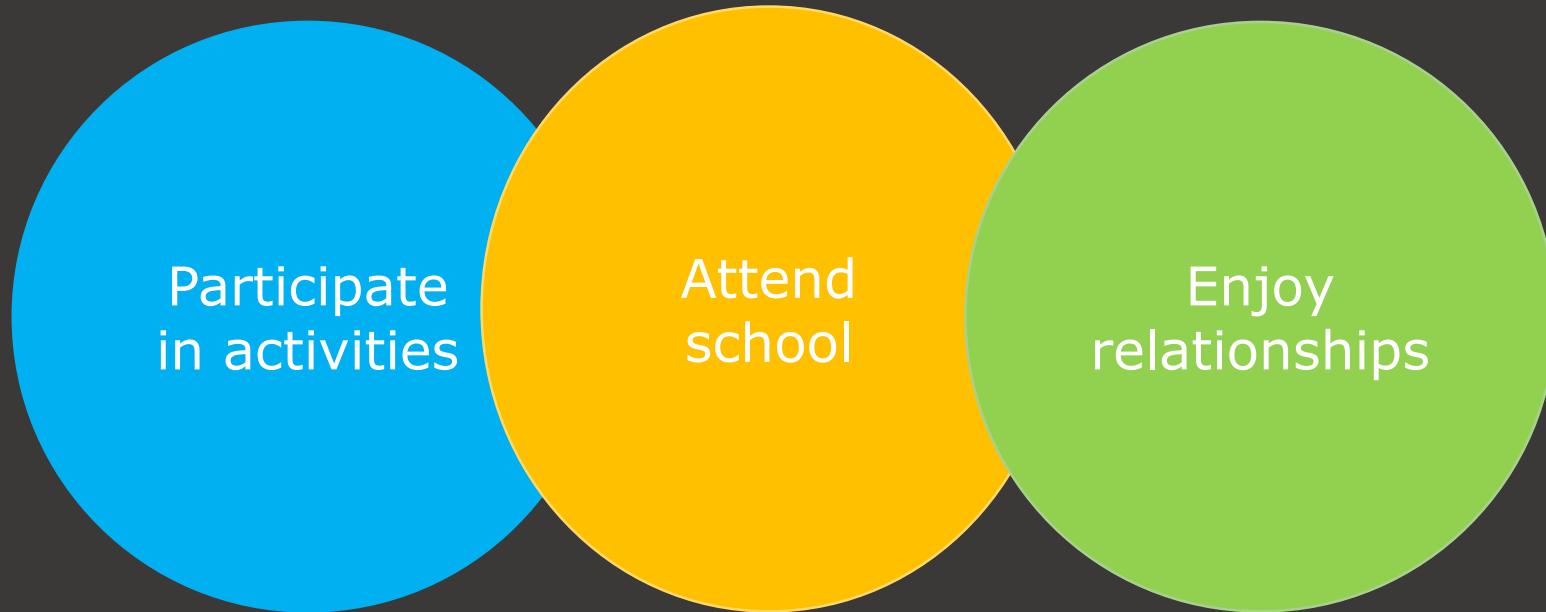
- No single known cause of anxiety disorders, there are a number of risk factors or triggers that may contribute

In general, the following factors may play a role:

- **Genes:** certain anxiety disorders appear to have a genetic component, with some anxiety disorders running in families
- **Physical health:** poor physical health can increase a person's vulnerability to developing symptoms of anxiety
- **Thinking style:** patterns of thinking characterized by anticipating the worst, persistent negative self-talk, low self-esteem, and unhelpful coping strategies (e.g., avoidance) are linked to problem anxiety
- **Stress:** stressful events such as public speaking, work or school deadlines, financial hardship can act as a trigger for anxiety

When Anxiety Becomes a Problem

- If the constant worrying lasts for a period longer than six months
- When it significantly interferes with the child's enjoyment of life, i.e.



Anxiety Impacts on our Mind and Body

- It is common to try to hide or mask anxiety but in doing so, the condition is often exacerbated
- Acknowledging, paying attention to what is underneath, behind the thoughts and behaviors can help us manage anxiety
 - Physical (muscle tension, nausea, dizziness etc)
 - Cognitive (overthinking, what if, constant doubt, worry)
 - Emotional (fear, anger, sadness, dread)
 - Behavior (performance, avoidance, act out)

How Stress Affects Children

- Kids may experience different stresses than their parents — such as worrying about doing well in school, relationships with their siblings and peers, and their family's financial situation — but they still experience the emotions
- Mental health problems like anxiety, depression, and stress can have a detrimental impact on your child's long-term development, especially because their brains are still developing
- Stress affects biological processes, taking its toll on the brain and body

Stress in Children

- Stress may be a response to any degree of change in a child's life
- In small amounts, stress can be good and build resistance
- Excessive stress can affect the way a child thinks, acts, and feels
- Children learn how to respond to stress as they grow and develop. Many stressful events that an adult can manage will cause stress in a child. As a result, even small changes can impact a child's feelings of safety and security

Coping Strategies

- Children respond differently to stress depending on their age, individual personalities, and coping skills, which can cause many parents to overlook the underlying issues that may be causing their child's behavior

How Children Cope

- Talk
- Play
- Music
- Tactility
- Sleep
- Moving their bodies, exercise

Signs of Unresolved Stress in Children

Physical symptoms can include:

- Decreased appetite, other changes in eating habits
- Headache
- New or recurrent bedwetting
- Nightmares
- Sleep disturbances
- Upset stomach or vague stomach pain
- Other physical symptoms with no physical illness

Signs of Unresolved Stress in Children

Emotional or behavioral symptoms may include:

- Anxiety, worry
- Not able to relax
- New or recurring fears (fear of the dark, fear of being alone, fear of strangers)
- Clinginess, unwilling to let parent/carer out of sight
- Anger, crying, whining
- Not able to control emotions
- Aggressive or stubborn behavior
- Going back to behaviors present at a younger age
- Doesn't want to participate in family or school activities

Preschool Children	Elementary School Children	Middle and High School Children
<ul style="list-style-type: none"> • Feel helpless and uncertain • Fear of being separated from their parent/caregiver • Cry and/or scream a lot • Eat poorly and lose weight • Return to bedwetting • Return to using baby talk • Develop new fears • Have nightmares • Recreate the trauma through play • Are not developing to the next growth stage • Have changes in behavior • Ask questions about death 	<ul style="list-style-type: none"> • Become anxious and fearful • Worry about their own or others' safety • Become clingy with a teacher or a parent • Feel guilt or shame • Tell others about the traumatic event again and again • Become upset if they get a small bump or bruise • Have a hard time concentrating • Experience numbness • Have fears that the event will happen again • Have difficulties sleeping 	<ul style="list-style-type: none"> • Feel depressed and alone • Discuss the traumatic events in detail • Develop eating disorders and self-harming behaviors such as cutting • Start using or abusing alcohol or drugs • Become sexually active • Feel like they're going crazy • Feel different from everyone else • Take too many risks • Have sleep disturbances • Don't want to go places that remind them of the event • Say they have no feeling about the event

Breathing

- Our bodies need a mix of oxygen and carbon dioxide
- **Hyperventilation** (breathing too hard and fast) can lead to symptoms such as dizziness, confusion, numbness and tingling, blurred vision, increased heart rate etc
- **Hyper arousal** (shallow breathing) can lead to triggering the fight/flight and freeze response

- ✓ Mindfulness of breath Technique
- ✓ Belly breathing
- ✓ Breathing waltz
- ✓ Pendulum breathing
- ✓ Nostril breathing

Grounding

- Grounding enables you to self-soothe by reconnecting to the earth and solid objects through supportive breathing techniques
 - Grounding techniques require you to focus on the here and now. Gives you a greater sense of physical and psychological safety and stability in the present moment
 - Useful for people who feel a sense of numbness or feel disconnected
- ✓ Walking barefoot on the grass/sand
 - ✓ Using the 5 senses
 - ✓ Wash your hands/ face running warm water

Mindfulness

- Mindfulness is essentially learning to pay attention, in a particular way; on purpose, in the present moment and not judging it as good or bad
- ✓ Mindfulness of breath technique
- ✓ Body scan
- ✓ Mindful garden
- ✓ Mindful gratitude list

STOP Technique

- **S**TOP what you are doing
- **T**ake a breath
- **O**bserve what is happening externally and internally
- **P**lan and proceed what actions can you take to improve the situation (proactive rather than reactive behavior)



Helpful Relaxation Techniques

- Breathing
- Progressive muscle exercise
- Visualization guided meditations
- Mindfulness activities
- Exercise
- Affirmation cards
- Cue cards

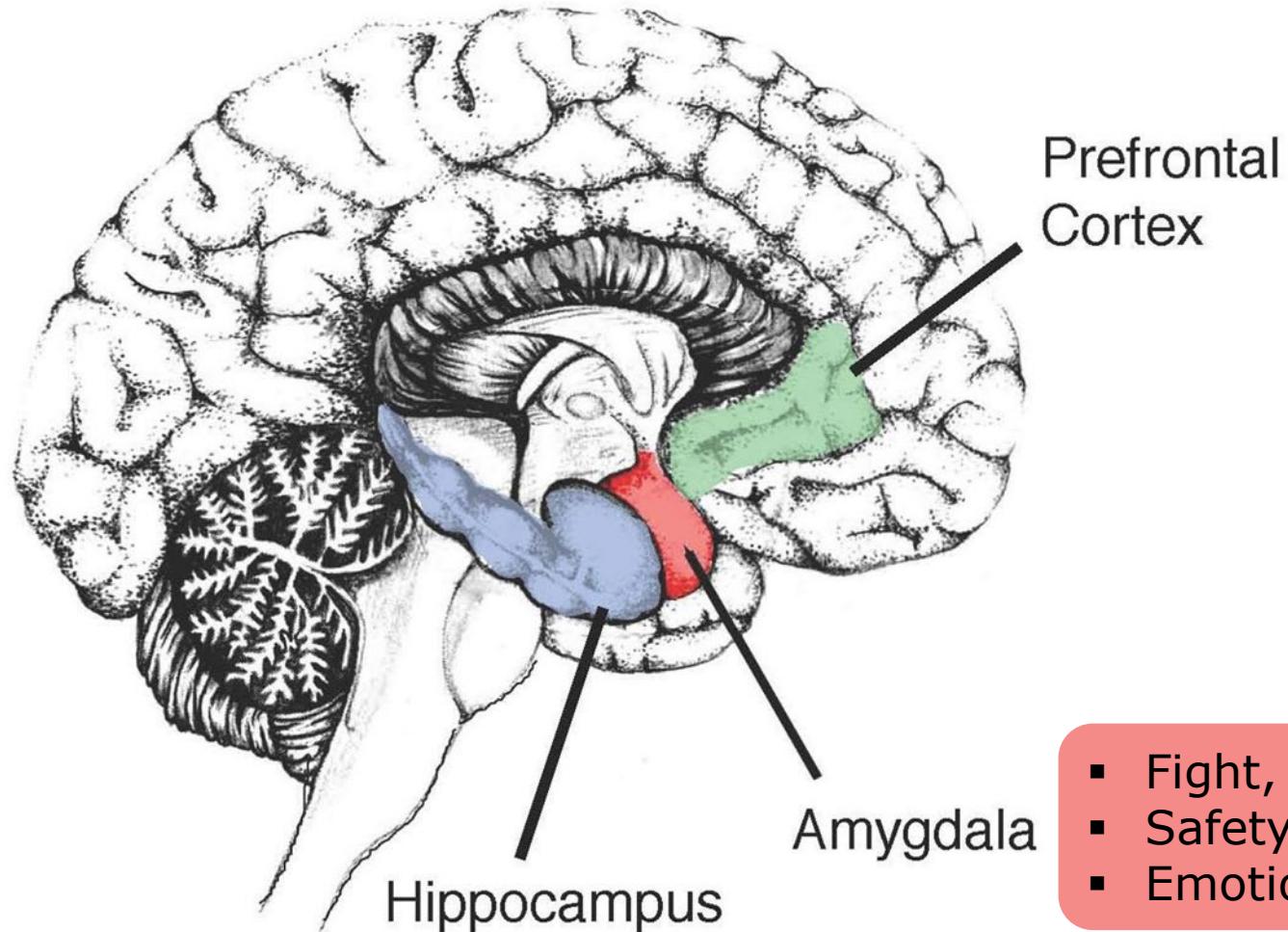


The Concept of Adaption to Stress



Allostasis, Allostatic Load and Overload

- **Allostasis** is the active process of adapting to stressors via mediators such as cortisol and the autonomic, metabolic and immune system that act together in a nonlinear fashion to maintain homeostasis¹
 - Allostasis literally means “***achieving stability through change***”
- **Allostatic load** refers to the cumulative effect of multiple stressors, as well as the dysregulation of the nonlinear network of allostasis
- **Allostatic overload** refers to the cumulative pathophysiology that can result from this dysregulation and excess stress



- Learning and memory
- Mood regulation

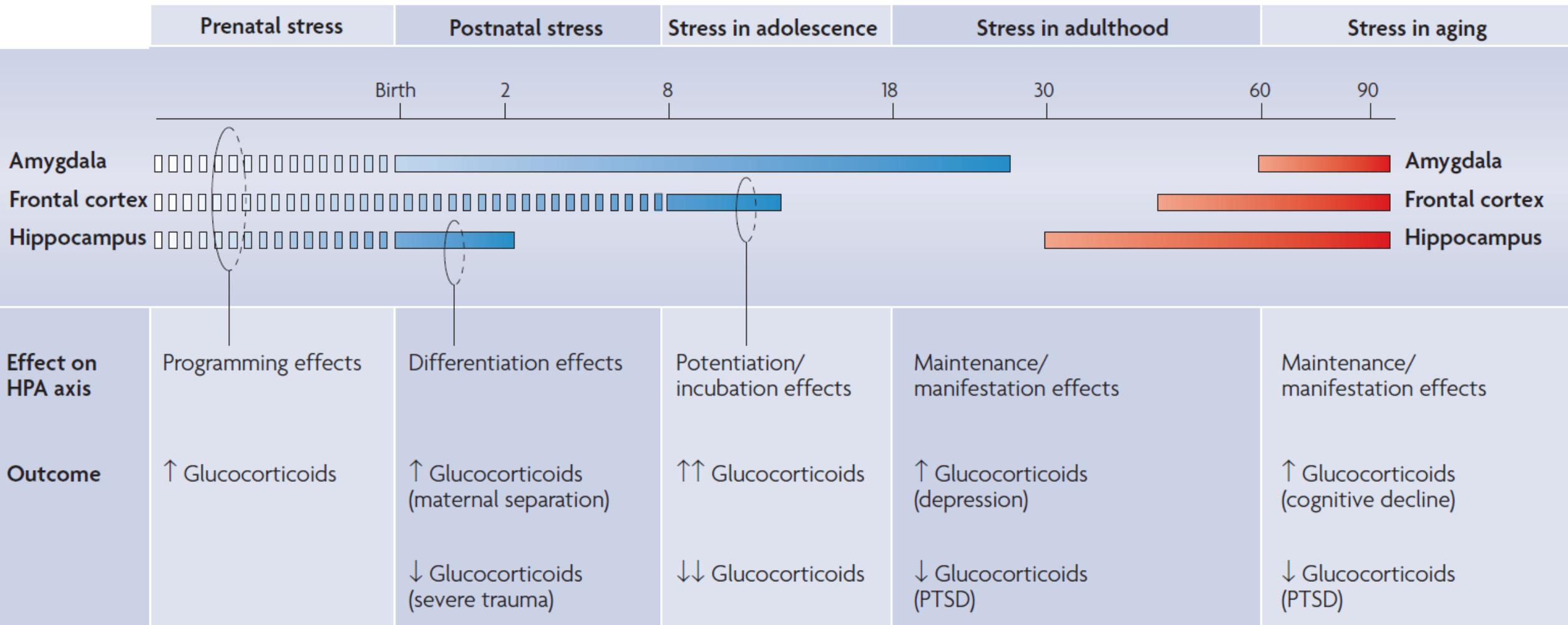
- Empathy
- Insight
- Flexibility of response
- Emotional regulation
- Morality
- Intuition
- Attuned communication
- Fear modulation

- Fight, flight, freeze as stress responses
- Safety
- Emotional memories

Stress and Cerebrovascular Function

- Chronic stress leads to cerebrovascular dysfunction by altering the balance between constricting and dilating metabolites
- **Neurotoxicity** is increased due to impaired vascular responses and changes to inflammation mediated signaling pathways
- Cerebrovascular adaptions to chronic stress results in **neuroinflammation** and **increased oxidative stress**
- Neurovascular endothelium dysfunction contributes to **BBB hyperpermeability**

The Life Cycle Model of Stress



The Botanical Stress Busting Superpowers for Children



General Considerations

- The rate of spontaneous recovery for many acute conditions is much higher in children than in adults
- There is excellent value in using herbal therapy in pediatrics because phytotherapies have a good benefit-risk ratio. The benefits have been clinically trialed and established for many individual herbs with negligible side effects
- Herbal medicine is a gentle “first line” treatment in complementary pediatric medicine

Children Medicines



Focus on using herbs with gentle actions



Heinz Schilcher, author of the text "Phytotherapy in Pediatrics- Handbook for Physicians and Pharmacists" refers to these gentle herbs as "Mite Medicines"

Core Children's Botanicals

The Nervous System

Examples include:

- Chamomile
- Echinacea
- Licorice
- Ashwagandha
- Eleuthero
- Marshmallow Root
- Schisandra
- Skullcap
- St Johns Wort
- Valerian
- Saffron

Botanicals Adrenal Tonics

- Nourish the adrenal glands
- Allow for improved regulation of cortisol and DHEA output
- Release stored adaptation energy
- Reduce side effects of corticosteroid drug use
- Cortisol sparing action in cases of phase 3 exhaustion of adrenals

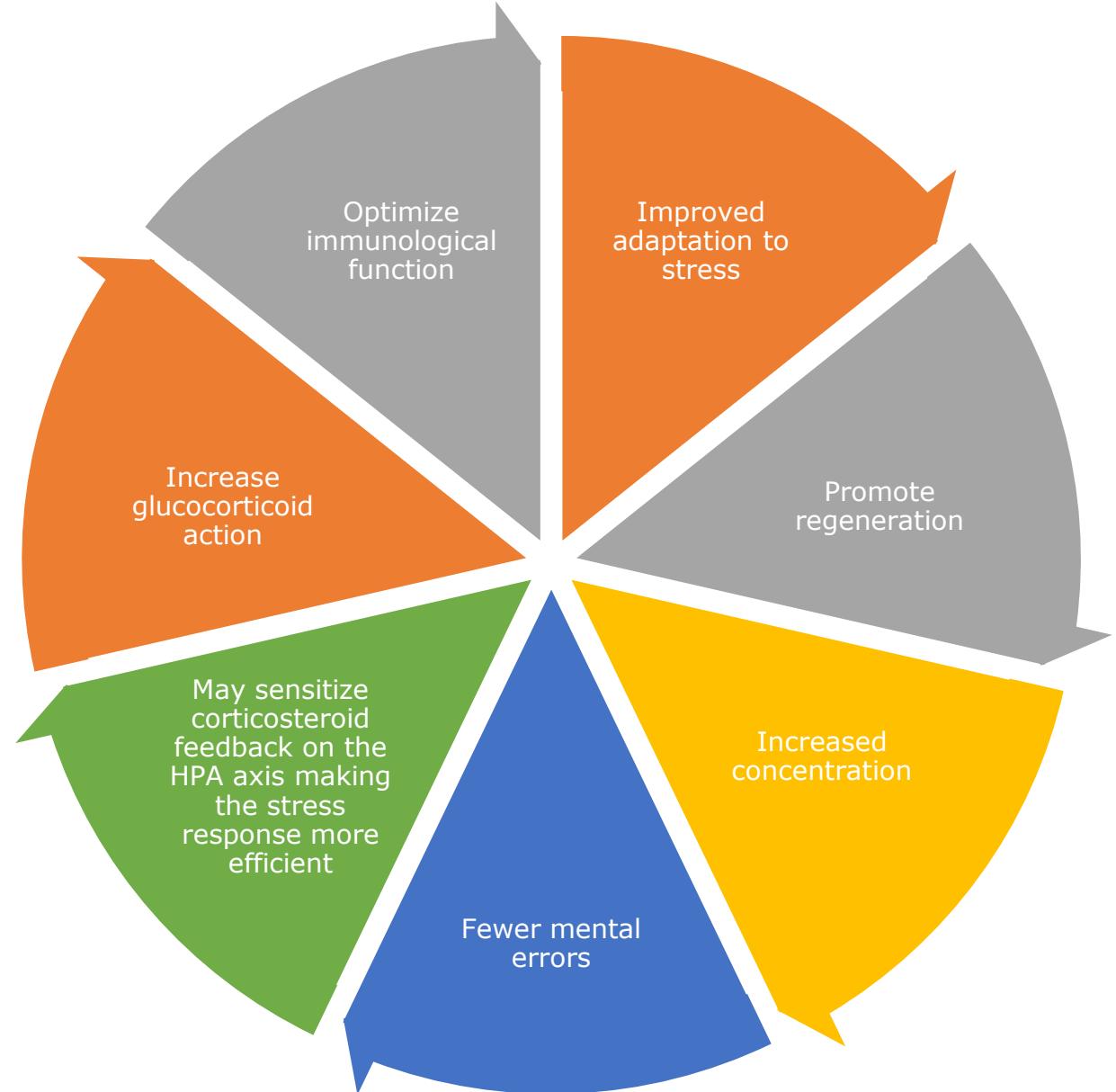
Licorice

- Adrenal tonic
- Anti-inflammatory
- Mucoprotective
- Demulcent
- Antiulcer (peptic)
- Expectorant
- Antitussive
- Mild laxative





Botanical Adaptogens



Ashwagandha

- Adrenal adaptogen
- Particularly if high cortisol levels
- Mild sedative or relaxant
- Promotes a feeling of calmness and more sustained energy
- Useful for insomnia



Ashwagandha

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



Image by Ton Rulkens00/CC BY-SA
(<https://creativecommons.org/licenses/by-sa/4.0>)

Table 3. Pharmacological Profile of Adaptogens: Clinical Efficacy in Humans

	Pathophysiological condition	Rhodiola	Eleuthero	Schisandra	Ginseng	Withania
Neuro-endocrine system	Physical fatigue	+	+	+	+	+
	Mental fatigue (declining attention)	+	+	+	+	+
	Stress-induced chronic fatigue	+	+		+	
	Astheno-depressive syndrome	+		+		
	Depression	+				
	Anxiety					+
	Neurosis	+	+	+	+	
	Schizophrenia			+		
	Visual function/vision in darkness		+	+		
Cognitive functions in Alzheimer's disease					+	

Panossian A, Wagner H. *HerbalGram*. 2014; **90**: 53-63. Available from: <https://www.researchgate.net/publication/236462312>

Practitioners making dietary supplement recommendations concerning specific health conditions, including mental health conditions, should always make certain they are acting within the scope of their practice and, if appropriate, working in concert with a properly licensed health care professional.

Table 3. Pharmacological Profile of Adaptogens: Clinical Efficacy in Humans

	Pathophysiological condition	Rhodiola	Eleuthero	Schisandra	Ginseng	Withania
Immune system	Anti-inflammatory effect		+	+		
	Common cold, influenza		+	+	+	
	Pneumonia		+	+		
	Gastric dysfunctions, gastritis, stomach and duodenal ulcers			+		
	Chemotherapy-induced immuno-suppression				+	
	Radiation induced disorders				+	
	Wounds				+	
Stress-system	Reduction of toxicity of chemicals		+			
	Total sickness rate in severe climatic conditions		+			
	Quality of life	+		+	+	

Panossian A, Wagner H. *Adaptogens: a review of their history, biological activity and clinical benefits.* 2014.

Available from: <https://www.researchgate.net/publication/236462312>

Practitioners making dietary supplement recommendations concerning specific health conditions, including mental health conditions, should always make certain they are acting within the scope of their practice and, if appropriate, working in concert with a properly licensed health care professional.

Nervines



Chamomile for Generalized Anxiety Disorder (GAD)

- RCT: 93 GAD responders to Chamomile were enrolled and given either Chamomile (1500 mg/day extract = 6 g of water-extracted herb) or placebo
- Relapse rates over 6 months were 25.5% for placebo versus 15.2% for Chamomile (not significant)
- Mean times to relapse were 11.4 ± 8.4 weeks for chamomile and 6.3 ± 3.9 weeks for placebo
- Chamomile participants maintained significantly lower GAD symptoms than placebo ($p = 0.0032$)

Valerian

- Clinical trials of a Valerian proprietary product have been conducted in children¹
- Research previously conducted at RMIT (Royal Melbourne Institute of Technology) has shown Valerian to be beneficial for the treatment of sleep problems in ADHD children, and this has also led to improvement in daytime behavior²

1. Schilcher H. Phytotherapy in paediatrics: handbook for physicians and pharmacists. Medpharm Scientific Publishers; 1997.

2. Francis AJ, Dempster RJ. *Phytomedicine*. 2002 Jan 1; **9**(4): 273-9

Passion Flower

- Improves relaxation and relieves stress, reduces anxiety, promotes sleep and relieves insomnia, antidepressant
- Indicated for anxiety, insomnia, depression, nervous headaches, ADHD, palpitations, exhaustion with muscle pain¹⁻⁴
- Research shows Passion Flower interacts with the GABA-system, MAO activity¹⁻⁵
- It is especially useful for sleeplessness associated with stress where circular thinking prevents the brain from shutting off.¹ It can be used in children who have restlessness or hyperactivity, stress headaches, and a racing heart. It is commonly used in teenagers with these concerns

Saffron

- Saffron has been found to have numerous scientifically proven therapeutic properties, including memory enhancement, anti-depressant and anti-anxiety qualities, and neuroprotection¹
- One systematic review and meta-analysis found that saffron significantly reduced symptoms of depression and anxiety in clinical and general populations, when compared with a placebo²
- It also found that saffron had a large positive effect size when used as an adjunct to anti-depressants in treatment of depressive symptoms²

1. Baziar S, Aqamolaei A, Mortazavi SH, Naderi S et al. *Journal of Child and Adolescent Psychopharmacology*. 2019; **29**(3): 205-212
2. Marx W, Lane M, Rocks T, Ruusunen A et al. *Effect of saffron supplementation on symptoms of depression and anxiety: a systematic review and meta-analysis*. Oxford University Press; 2019.

Saffron

- Saffron is predominantly safe and has a reduced drug interaction profile¹
- Another randomized, double-blind study on ADHD found that saffron supplementation exhibited identical efficacy compared to methylphenidate (MPH), which is the most commonly prescribed drug for the treatment of ADHD²
- There is also evidence that saffron may have a positive effect on the monoaminergic and glutamatergic systems, both of which have been found to malfunction in ADHD, by increasing the reuptake inhibition of dopamine and norepinephrine²

1. Lopresti AL, Drummond PD, Inarejos-García AM, Prodanov M. *Journal of Affective Disorders*. 2018; **232**: 349-357

2. Baziar S, Aqamolaei A, Mortazavi SH et al. *Journal of Child and Adolescent Psychopharmacology*. 2019; **29**(3): 205-212

Jujube

- The Traditional Chinese formula, Suan Zao Ren Tang, contains Jujube seeds (45.5%) and is a popular formula to manage anxiety, insomnia and stress
- Suan Zao Ren Tang formula (750 mg/day) demonstrated almost the same anxiolytic effect as diazepam (6 mg/day) in a short-term RCT
- Suan Zao Ren Tang formula, but not diazepam, improved mental performance during the daytime and improved anxiety symptoms¹
- In patients with anxiety and heart symptoms, treatment with Suan Zao Ren Tang formula demonstrated an anxiolytic effect (uncontrolled trial)²

1. Chen HC, Hsieh MT, Shibuya TK. *Int J Clin Pharmacol Ther Toxicol.* 1986 Dec; **24**(12): 646-650. PMID: 2880811

2. Hsieh MT, Chen HC. *Eur J Clin Pharmacol.* 1986; **30**(4): 481-484. PMID: 2874989



Treatment Strategy: Goals, Actions and Herbs

- Calming or anxiolytic herbs (sometimes incorrectly referred to as herbal sedatives) are the key part of any herbal treatment
- Main herbs with this property are:
 - Valerian
 - Chamomile
 - Passion Flower
 - Jujube seed
- Other anxiolytic herbs include:
 - Ashwagandha

Treatment Strategy: Goals, Actions and Herbs

- **Nervine tonic** herbs also have a role (these herbs are anxiolytic, but also lift mood) in the treatment of anxiety. These include:
 - St John's Wort
 - Saffron
 - Skullcap
 - Schisandra



Treatment Strategy: Goals, Actions and Herbs

- Chamomile may be useful for any visceral symptoms associated with the anxiety
- Anxious patients stress their bodies and deplete their adrenal reserves
- This can create a vicious cycle
- Hence adrenal tonic (Licorice) and adaptogenic herbs (especially Ashwagandha) may be required



CORE	ACTIONS	DOSE
Licorice, Rehmannia	<ul style="list-style-type: none">▪ Restore and nourish the adrenal glands▪ Adrenal tonic action	1-2 times daily Best taken in morning
Rehmannia, Ashwagandha, Echinacea, Licorice	<ul style="list-style-type: none">▪ Restore and nourish the adrenal glands▪ Adrenal tonic action▪ Calm and fortify adaptogenic activity▪ Support healthy immunological function	2-3 times daily
Valerian Passion Flower Jujube	<ul style="list-style-type: none">▪ Relieve mild nervous tension▪ Relief from occasional sleeplessness▪ Promote relaxation▪ Ease the effects of temporary or occasional stress	1-2 times daily

Herbal Support Summary

CORE	ACTIONS	DOSE
Ashwagandha	<ul style="list-style-type: none">▪ Physical fatigue▪ Mental functioning▪ Improved cognition▪ Improves blood building and recovery from infection▪ Calming effect on the CNS	2-4 times daily
Echinacea	<ul style="list-style-type: none">▪ Enhances vitality and stamina▪ Physical Fatigue▪ Immunological adaptogen▪ Immunologically beneficially, especially for common cold or influenza▪ Improves quality of life	1-3 times daily
Skullcap	<ul style="list-style-type: none">▪ Calm the nerves and restore balance in temporary mood swings	2-3 times daily
St Johns Wort	<ul style="list-style-type: none">▪ Support healthy nervous system response	
Schisandra	<ul style="list-style-type: none">▪ Encourage balance between the body and mind	
Saffron	<ul style="list-style-type: none">▪ Ease the effects of occasional stress	



Compliance with Children

Administering Medicines

- Water or juice
- Straight off spoon
- Smoothies
- Milks: coconut, rice, goat, breast milk
- Formulas & food supplements
- Mashed fruit, vegetables, baby food
- Ice block



Tips: Don't let your taste bias the patients and, mix products together (single dose)

Oral Dose Calculation for Children

- Children under 1 year of age
 - Fried's Rule: age (months) divided by 150 multiply by adult dose
- Children over 1 year old
 - Augsberger's Rule $(1.5 \times \text{weight in kg}) + 10 = \%$
 - Give the % of the adult dose
- Gabius Rule
 - 1 year- 1/12 adult dose
 - 2 years = 1/8 adult dose
 - 3 years – 1/6 adult dose



Treatment Options

Popular methods of administering herbs to children include:

- Glycetracts
- Tinctures
- Teas
- Tablets
- Topical preparations such as ointments and creams
- Baths
 - Hand and foot baths were popularly prescribed by the Eclectic physicians

Treatment Options

- Palatability is an extremely important issue
- Children are accustomed to the sweet taste, such as that of breast milk

Options:

- Syrups can be added to the herbs
- Glycetracts
- Honey: drops or tablets mixed with honey > 2 yrs old only)
- Foods or yoghurt



Compliance Driving Flavor Agents for Children's Botanicals



Other suggestions:

- Marshmallow Root
- Rosehip Syrup
- Glycerol
- Sorbitol
- Rice Syrup
- Juice Concentrates

Children's Dosing General Guidelines

<u>Age of Child</u>	<u>Fraction of Adult Dose</u>
0-2 years	1/8 adult dose
2-6 years	1/4 adult dose
6-12 years	1/2 adult dose
12 years and above	Full adult dose

My Top Picks: Botanicals for Adrenals and Nervous System in Children

- **Adaptogens:**

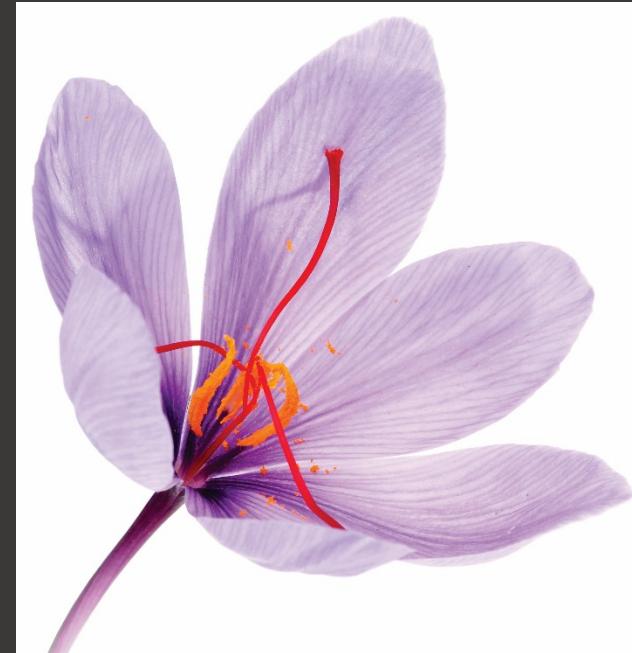
- Eleuthero
- Ashwagandha
- Schisandra
- Echinacea

- **Nervines:**

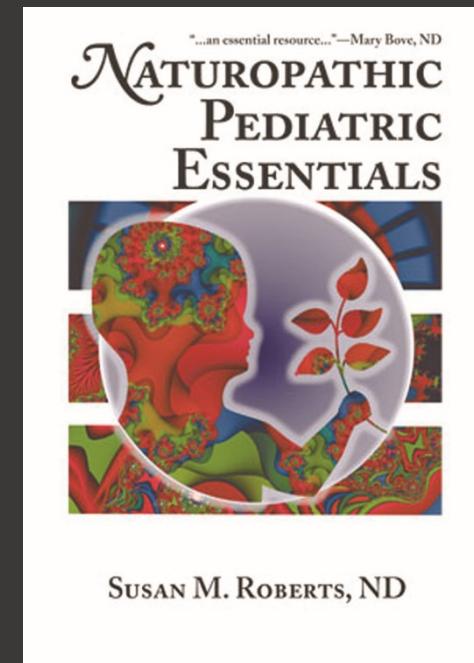
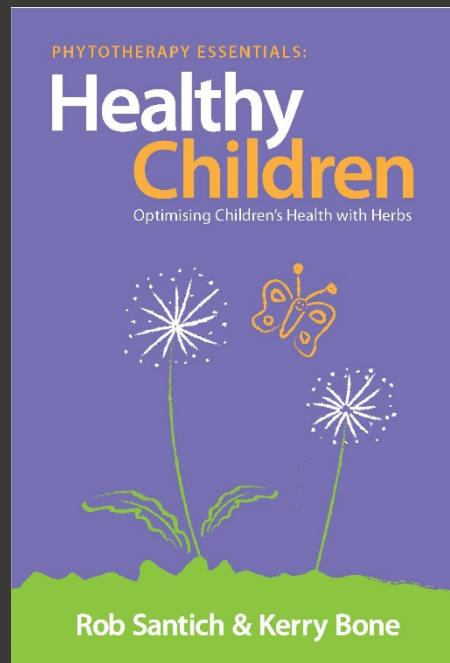
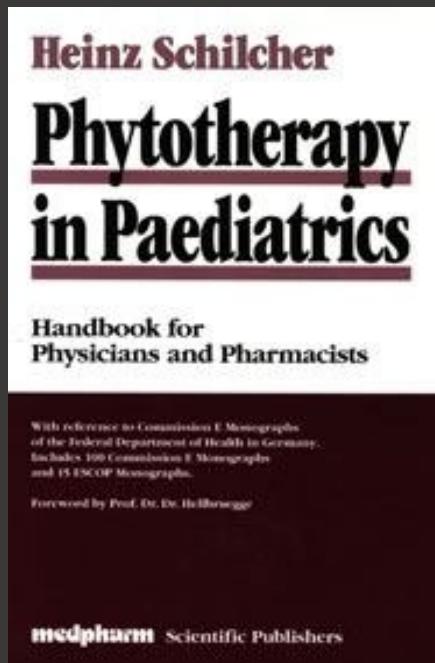
- Saffron
- Chamomile

- **Adrenal Tonics:**

- Licorice



Phytotherapy Pediatrics Reference Library





Thank You