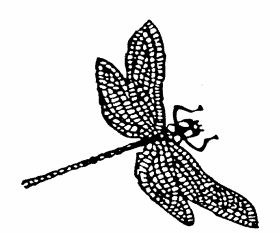

An Herbalist's View
The Cardiovascular System

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Anatomy & Physiology

Aorta
Arteries/Arterioles
Capillaries
Carotid sinus
Coronary arteries
Electrical activity of the heart
- Sinoatrial (SA) node
- Atrioventricular node
- Purkinje fibers

Heart
- Right atrium
- Tricuspid valve
- Right ventricle
- Left atrium
- Bicuspid valve
- Left ventricle
- Semilunar valves
- Chordae tendinea

Pulmonary Artery
Superior/inferior vena cava
Veins/Venules
Baroreceptors
Blood
Cholesterol
Diaphragm
Diastole
Embolus
Erythrocytes
Free Radicals
Leukocytes
Lipid
LDL/HDL
Myocardium
Pericardium
Plasma
Platelets
Prostaglandins
Spleen
Systole
Thrombocytes
Thrombus

Disharmonies

Angina pectoris
Arrhythmia
Arteriosclerosis
Atherosclerosis
Bradycardia
Capillary fragility
Cardiac arrest
Cardiomegaly – enlarged heart
Cardiopathies
Carditis
Congenital defects
Congestive heart failure (CHF)
Coronary artery disease (CAD)
Cyanosis
Dropsy
Edema
Flutter/Fibrillation
Heart attack
Heart block
Heart murmur
Hemorrhage
Hemorrhoid
Hypertension
Hypotension
Ischemia
Kidney damage
Mitral valve prolapse
Myocardial infarction
Occlusion
Palpitations
Pancarditis
Paroxysmal tachycardia
Pericarditis
Peripheral vascular disease (PVD)
Polycythemia
Rheumatic fever
Septicemia
Stroke
Syncope
Tachycardia
Thrombocytopenia
Varicose veins
Varicosity
Vascular stenosis
Ventricular insufficiency

Classes of Standard Drug Therapy

Alpha blockers
Angiotensin converting enzyme (ACE) inhibitors
Beta blockers
Calcium channel blockers
Central alpha agonists
Diuretics
Vasodilators

Categories of Therapeutics

- Antihemorrhagic
- Cardiotonic
- Inotropic
- Antihypertensive
- Circulatory stimulant
- Rubefacient
- Antimicrobial
- Diaphoretic
- Vascular tonic
- Antioxidants
- Diuretic
- Vasoconstrictor
- Anxiolytic
- Hypertensive
- Vasodilator
- Cardiopulmonary resuscitation (CPR)
- Hypotensive

Plant Constituents

Cardiac glycosides
Gamma-linolenic acid
Omega-3 fatty acids
Eicosapentaenoic acid
Linoleic acid
Omega-6 fatty acids
Essential fatty acids
Linolenic acid
Saponins
Flavonoids

Herbs

Alfalfa – Medicago sativa
Lavender – Lavandula spp.
Arjuna – Terminalia arjuna
Lily-of-the-valley – Convallaria majalis
Arnica – Arnica spp.
Lobelia – Lobelia inflata
Bilberry – Vaccinium spp.
Ma Huang – Ephedra sinica
Black cohosh – Cimicifuga racemosa
Mistletoe – Viscum album
Blueberry – Vaccinium spp.
Motherwort – Leonurus cardiaca
Broom – Sarothamnus scoparius
Nettles – Urtica dioica
Bugleweed – Lycopus spp.
Night blooming cactus – Cereus grandiflorus
Cayenne – Capsicum frutescens
Nux vomica – Strychnos nux-vomica
Cola nut – Cola spp
Oak – Quercus spp.
Coleus – Coleus forskohlii
Oats – Avena sativa/A. fatua
Crampbark – Viburnum opulus
Olive – Olea europea
Dan shen – Salvia miltorrhiza
Orange peel – Citrus reticulata
Devil's club – Oplopanax horridus
Passionflower – Passiflora incarnata
Dogbane – Apocynum spp.
Pleurisy root – Asclepias tuberosa
Echinacea – Echinacea spp.
Prickly ash – Zanthoxylum spp.
Elecampane – Inula helenium
Rauwolfia – Rauwolfia serpentina
Foxglove – Digitalis spp.
Reishi – Ganoderma spp.
Garlic – Allium sativum
Siberian ginseng – Eleutherococcus senticosus
Ginger – Zingiber officinale
Skullcap – Scutellaria lateriflora
Ginkgo – Ginkgo biloba
Squill – Scilla (Urginea) maritima
Ginseng – Panax quinquefolium/P. renshen

Stream orchid – Epipactis helleborine
Goldenrod – Solidago/ Euthamia spp.
Stoneroot – Collinsonia canadensis
Goldenseal – Hydrastis canadensis
Swamp hellebore – Veratrum viride
Guggul – Commiphora mukul
Sweet clover – Melilotus spp.
Hawthorne – Crataegus spp.
Turmeric – Curcuma longa/C. spp.
Yarrow – Achillea millefolium
Horse chestnut – Aesculus hippocastanum
Valerian – Valeriana officinalis/V. spp.
Inmortal – Asclepias asperula
Wild ginger – Asarum spp.
Kava kava – Piper methysticum
Witch hazel – Hamamelis virginiana
Khella – Ammi Visnaga
Gelsemium – Gelsemium sempervirens

Transport in the Cardiovascular System

Materials moved	**From**	**To**
Materials moved from outside into the body		
Oxygen (O_2)	Lungs	All cells
Water and nutrients	Intestinal tract	All cells
Materials moved from cell to cell		
Wastes	Some cells	Liver processing
Immune cells, antibodies, clotting proteins	Constant presence in blood	Available to any cell in need
Hormones	Endocrine cells	Target cells
Stored nutrients	Liver and adipose tissue	All cells
Materials moved from inside to outside the body		
Metabolic wastes	All cells	Kidneys
Heat	All cells	Skin
Carbon dioxide	All cells	Lungs

CARDIOVASCULAR (CV) CONNECTION WITH OTHER BODY SYSTEMS

- **Autonomic nervous system and CV**- Transport of epinephrine to adrenergic receptors
- **Brain and CV**- Transport of oxygen and glucose. Endocrine transport; afferent and efferent information
- **Digestion and CV**- Transport of cellular nutrients from the GI and breakdown products to the liver. Delivery of glucose and fatty acids
- **Endocrine and CV**- Transport of hormones. Cell to cell communication by maintaining interstitial fluid
- **Immune and CV**- Transport of lymph and white blood cells. Spleen as reservoir of blood and lymph cleansing
- **Kidney's and CV**- control blood pressure through atrial natriuretic peptide. CV brings metabolic wastes to the kidneys for removal
- **Liver and CV**- Transport of liver proteins
- **Respiratory and CV**- Oxygen and CO_2 transport by red blood cells
- **Skeletal muscle and CV**- Removes heat and waste