Yoga and Circulatory Conditions
(Heart Disease, Cardiovascular Disease)

Heart disease is a general term that refers to any disorder of the cardiovascular system that decreases the heart’s ability to function optimally. Heart disease contributes to 40% of all deaths and affects approximately 61 million people in the US. Since yoga affects all systems of the body, it can be an effective means of mitigating the lifestyle risk factors that lead to heart disease. Before taking on a client with a heart condition, you should be aware of the possible contraindications for exercise for your client. The following are some general guidelines, but I strongly recommend getting guidelines directly from the client’s physician before proceeding.

Contraindications

Do not take on a client with the following until she has been cleared and given exercise guidelines by her physician.

- Unstable angina or new angina diagnosis within the last month.
- Unstable diabetes.
- New or uncontrolled arrhythmias.
- Resting or uncontrolled tachycardia (resting heart rate > 100 bpm).
- Resting SBP>180 mmHg or resting DBP > 110.
- Uncontrolled low blood pressure with fainting or dizziness.
- Recent heart attack or recent recovery from sudden cardiac death.
- Excessive shortness of breath or unable to talk.
- Excessive sweating.
- Blurred vision.
- Frequent skipped heart beats.
- Dizziness, light-headedness.
- Nausea.
- Cramping in your arms and legs.
- New weakness on one side of the body, either arm or leg or both.
- General weakness getting worse.
- Heart rate is below 50 or above 120 beats per minute while at rest. If this is the case, send the patient to their doctor!

Risk Factors Contributing to Circulatory Conditions

Controllable Risk Factors

- Smoking or exposure to second hand smoke.
- Stress.
- Lack of exercise.
- Over-the-counter cough and cold medicines containing pseudo ephedrine.
• Drinking too much alcohol.
• Caffeine or nicotine use.
• Using illegal drugs, such as cocaine or amphetamines.
• Nutritional imbalance, such as low potassium or magnesium levels.

Uncontrollable Risk Factors

• Family history of heart disease.
• Men being older than 45 and women being older than 55.

Other Conditions that Increase Vulnerability to Circulatory Conditions.

• Diabetes.
• High blood pressure.
• High blood cholesterol or triglyceride levels.
• Obesity.
• Thyroid problems that lead to tachycardia or bradycardia,
• Obstructive sleep apnea.
• Electrolyte imbalance potassium, sodium, calcium and magnesium).

**Physiological Approach**

• Strengthen the heart and cardiovascular system (strong standing poses and inversion).
• Improve circulation and help the body use oxygen better (inversion).
• Increase energy levels so you can do more activities without becoming tired or short of breath (standing, stabilization, balance… a balanced practice overall).
• Increase endurance (strong standing postures, inversion, a balanced practice).
• Lower blood pressure, expect in the case of low blood pressure issues (meditation, bring energy into the lower energy centers, achieve deep relaxation, development of witness consciousness).
• Improve muscle tone and strength (a balanced practice).
• Improve balance and joint flexibility (a balanced practice).
• Strengthen bones (a balanced practice which includes weight bearing on all extremities).
• Help reduce body fat and reaching a healthy weight (build to a vinyasa practice that is fat-burning and decreases appetite).
• Help reduce stress, tension, anxiety, and depression (a balanced practice that includes restorative poses).
• Boost self-image and self-esteem (a balanced practice, meditation).
• Improve sleep (a balanced practice aimed at stress reduction and restoration of hormonal balance).
Increase experiences of relaxation and rest (a balanced practice, restorative poses).
Make you look fit and feel healthy (a balanced practice incorporating strength and flexibility overall).

**Chakra Approach**
In general balance 1, 2, and 4. Assess all for a full picture.

**Ayurvedic Approach**
Circulatory diseases caused by sedentary lifestyle may be attributable to a kapha imbalance. Those caused by stress, including responses to stress such as drinking and smoking, are likely due to a pitta imbalance.

**Meridian Approach**
See each individual condition.

**Coronary Heart Disease**

**Description**
- Results when the coronary arteries that supply blood to your heart become damaged or diseased by cholesterol-containing deposits (plaques).
- These plaques build up and narrow your coronary arteries, causing your heart to receive less blood.
- Eventually, diminished blood flow may cause chest pain (angina), shortness of breath or other coronary artery disease symptoms.
- A complete blockage can cause a heart attack.
- Sometimes a heart attack is the first symptom someone experiences.
- Is preventable by living a healthy lifestyle.

**Causes**
Coronary artery disease is thought to begin with damage or injury to the inner layer of a coronary artery, sometimes as early as childhood. The damage may be caused by various factors, including:

- Smoking
- High blood pressure
- High cholesterol
- Diabetes
- Radiation therapy to the chest, as used for certain types of cancer

Once the inner wall of an artery is damaged, fatty deposits (plaques) made of cholesterol and other cellular waste products tend to accumulate at the site of injury in a process called atherosclerosis. If the surface of these plaques breaks or ruptures, blood cells called platelets will clump at the site to try to repair the artery. This clump can block the artery, leading to a heart attack.
**Symptoms**
When the narrowing gets far enough along these symptoms may develop:

- Chest pain (angina).
- Shortness of breath.
- Heart attack.

**Mind-Body Connection**
According to Shapiro, coronary heart disease may reflect a tendencies to

- Hold oneself back from sharing or receiving.
- Avoid emotional involvement or interaction.
- Be narrow-minded or a reluctant to accept another’s viewpoint.
- Pretend to be managing well instead of asking for help.

If hardening of the arteries is involved, this may indicate further tendencies of

- Growing up from a loveless childhood into an adult with hardened attitudes, especially toward emotions.
- Being hypocritical.
- Fixed attitudes.

**Mind-Body Approach**
Focus on themes of softening, willingness to receive and give love, releasing guilt and shame, speaking your emotional truth as soon as you become aware of it, sharing feelings, releasing restrictions, allow energy to flow freely in the body.

AffORMations may include

- Why do I invite my attitudes to soften and relax?
- Why is it safe to admit I need help?
- Why do I ask for help when I need it?
- Why do I give and receive love so easily?
- Why do I freely release any guilt and shame from the past?
- Why do I speak my truth as soon as I become aware of it?
- Why do I freely share my feelings with others?
- Why do I release myself from so many restrictions of the past?
- Why does energy flow so freely in my body?

**Physiological Approach**
Challenging the heart muscle to grow stronger is the key here. Vinyasa may be appropriate for aerobic activity. Strong standing poses, back bends, and inversions are good options.

**Meridian Approach**

- Liver if repressed anger or temper.
- Gallbladder if irritability.
- Pericardium to address arteriosclerosis or angina.
- Bladder if diabetes.
• Heart if angina or palpitations.
• Spleen if diabetes.

Sample Class
This is a general sample class. If you discover that kapha imbalance is involved, you can incorporate a kapha reducing practice. Likewise, if pitta imbalance is involved, incorporate a pitta reducing practice (the following is along the lines of a pitta-reducing practice).

• Warrior 1 and 2 (YTT 15 & 16).
• Lateral Angle (YTT 17).
• Separate Leg Forward Fold with Head Supported (YTT 72).
• Downward Facing Dog with Head Supported (YTT 26).
• Standing Forward Fold with Head Supported (YTT 73).
• Balancing Half Moon (YTT 77).
• Inverted Staff Pose (TPM).
• Camel or Supported Camel (YTT 57 or TPM).
• Reclining Bound Angle (YTT 34).
• Reclining Hero or Supported Reclining Hero (YTT 58 or TPM).
• Head Stand (YTT 87).
• Ujjayi pranayama. (TPM)
• Sitali pranayama (TPM)
• Sheetkari pranayama - Hissing breath (TPM).
• Nadi Shodhana Pranayama (TPM).
• Restorative Inversion (TPM).
• Supported Savasana (TPM).
• Hasta Mudra #1 (pinkies touching)
• Interlaced Mudra #1 (interlaced pinkies)
• Hasta Mudra #6 (all finger tips touching)

Heart Attack (Myocardial Infarction)

Description

• An outcome of Coronary Heart Disease.
• Occurs when a blood clot blocks the flow of blood through a coronary artery, which feeds blood to a part of the heart muscle.
• Can result in damage in part of the heart muscle.
• Typically is the end result of a process that evolves over several hours.
• The sooner treatment is administered in this process, the less heart damage there is.
• Are more survivable these days thanks to improved awareness of the signs and symptoms of heart attack and improved treatments.
• Eating a healthy diet, exercising, and good stress management are the keys to recovery.
• Are preventable by controlling the risk factors that contribute atherosclerosis.
Causes

- Coronary artery disease, which involves the development of atherosclerosis (plaque buildup) that narrows the coronary arteries. If one of the plaques ruptures, it can lead to a blood clot that blocks the flow of blood through the artery.
- Drugs like cocaine can cause a spasm of a coronary artery that shuts down blood flow to part of the heart muscle.

Symptoms

- Vary greatly in number and degree – some people have no symptoms.
- Can occur anytime – at rest or during exertion.
- Can occur suddenly or over hours, days, or weeks.
- The earliest warning sign is recurrent stable angina that is triggered by exertion and relieved by rest.

Typical symptoms men may experience

- Pressure, a feeling of fullness or a squeezing pain in the center of the chest that lasts for more than a few minutes.
- Pain extending to the shoulder, arm, back, teeth, or jaw.
- Increasing episodes of chest pain.
- Prolonged pain in the upper abdomen.
- Shortness of breath
- Sweating
- Impending sense of doom.
- Fainting.
- Nausea and vomiting.

Symptoms that may be experienced by women:

- Abdominal pain or heartburn
- Clammy skin
- Lightheadedness or dizziness
- Unusual or unexplained fatigue

How to Proceed after Heart Attack:
Get a detailed guideline from the client’s physician regarding exercise parameters before proceeding. May eventually be able to return to the Coronary Heart Disease practice.

Angina

Description

- A common symptom of coronary artery disease that can be confused with indigestion or even a panic attack.
- A type of chest pain caused by reduced blood flow to the heart muscle that can be categorized as stable, in which the pain is persistent and
recurring with exertion or stress or *unstable*, in which the pain is new or a different pattern than before.

- Unstable angina can signal an impending heart attack.
- All chest pain should be treated seriously. If a client or student complains of chest pain call 911.

**Causes**
The heart not getting enough blood flow under high-demand conditions like during exercise or emotional stress), often due to a narrowing of the coronary arteries due to plaque build-up (atherosclerosis), called coronary artery disease.

**Symptoms**

**In men**
- Chest pain described as squeezing, pressure, heaviness, tightness or pain in the chest.
- Pain in arms, neck, jaw, shoulder or back accompanying chest pain.
- Nausea
- Fatigue
- Shortness of breath
- Anxiety
- Sweating
- Dizziness

**In women**
- Stabbing, pulsating or sharp form of chest pain rather than the more typical vise-like pressure.
- Nausea
- Shortness of breath
- Abdominal pain.

**Mind-Body Connection**
According to Shapiro the person experiencing angina may have a tendency to
- Worry or be over-concerned about others
- Be constricted in the ability to receive love, nurturing, help, or advice.
- Need to stay in control.
- Deplete her inner resources.
- Give too much to others.

**Mind-Body Approach**
Use themes around focusing completely in the present, such as on the breath, allowing others to be responsible for their own load, opening up pathways to receiving love and nurturing, giving the gift of asking for help, releasing the need to control, filling her cup, replenishing inner resources.

AfFORMations may include:
- Why can I focus my mind completely in the present?
• Why do I let others carry their own worries and responsibilities?
• Why do I so easily receive love and nurturing?
• Why do I so easily ask for help?
• Why do I so willingly and happily relinquish control?
• Why is my cup full?
• Why do I replenish my inner resources?

Meridian Approach
Kidney, Heart, Lung

Sample Class
This is a general sample class. If you discover that kapha imbalance is involved, you can incorporate a kapha reducing practice. Like-wise, if pitta imbalance is involved, incorporate a pitta reducing practice (the following is along the lines of a pitta-reducing practice).

• Triangle (YTT 18).
• Lateral Angle (YTT 17)
• Balancing Half Moon (YTT 77)
• Separate Leg Forward Fold with Head Supported (YTT 72)
• Downward Facing Dog with Head Supported (YTT 26)
• Standing Forward Fold with Head Supported (YTT 73)
• Inverted Staff Pose (TPM)
• Supported Camel (TPM)
• Supported Shoulder Stand (TPM)
• Supported Plough (TPM)
• Supported Legs Up the Wall (TPM)
• Reclining Bound Angle (YTT 34)
• Reclining Hero (YTT 58 or TPM)
• Head Stand (YTT 87)
• Ujjayi pranayama. (TPM).
• Sitali pranayama (TPM)
• Sheetkari pranayama - Hissing breath (TPM).
• Nadi Shodhana Pranayama. (TPM)
• Restorative Inversion (TPM)
• Supported Savasana (TPM)
• Hasta Mudra #1 (pinkies touching)
• Interlaced Mudra #1 (interlaced pinkies)
• Hasta Mudra #6 (all finger tips touching)

Atherosclerosis

Description
• Hardening of the arterial wall slowly over time due to formation of plaque composed of cholesterol, calcium and fatty deposits.
• May decrease or stop blood circulation or at times, leading to a sharp pain in the affected area (angina).
• A preventable and treatable condition.
• Is a key aspect of Coronary Heart Disease, Carotid Stenosis, Peripheral Artery Disease, and Aneurysms.

**Symptoms**

• Usually no symptoms until the block is significant enough to block adequate blood supply to organs and tissues.
• A blood clot could completely block blood flow or break apart, triggering a heart attack or stroke.
• Atherosclerosis in the heart arteries leads to chest pain (angina).
• Atherosclerosis in the arteries leading to the brain may result in a transient ischemic attach (TIA) leading to sudden numbness or weakness in your arms or legs, difficulty speaking or slurred speech, or drooping muscles in your face. Left untreated this may progress to a stroke.
• Atherosclerosis in the arteries in your arms and legs may lead to peripheral artery disease, which causes leg pain when walking (intermittent claudication).
• Atherosclerosis anywhere in the body can lead to aneurisms.
• Can cause erectile dysfunction in men.

**Causes**

It progresses slowly, possibly from childhood, and may begin with damage or injury to the inner layer of an artery. The damage may be caused by:

- High blood pressure
- High cholesterol, often from getting too much cholesterol in your diet
- Smoking and other sources of nicotine
- Diabetes
- Obesity.

**Mind-Body Connection**

In Shapiro’s view, atherosclerosis may develop out of growing up from a loveless childhood into an adult with hardened attitudes, especially toward emotions. This may lead to being hypercritical and having fixed attitudes about things.

**Mind-Body Approach**

Incorporate themes around releasing others from expectations, softening the heart, embracing one’s emotions, developing witness consciousness toward her tendency to be critical, softening attitudes, being open to changing her mind.
AfFORMations may include:
- Why do I free others from my expectations and criticism?
- Why do I allow my heart to soften?
- Why do I consciously allow my attitudes to soften?
- Why is it ok to change my mind?

Meridian Approach
- Liver if repressed anger or temper problems.
- Gall Bladder if Irritable or judgmental.
- Triple Warmer if diabetes.
- Pericardium if arteriosclerosis.
- Kidney if diabetes.
- Bladder if diabetes.
- Heart if chest pain.
- Spleen if diabetes.
- Large Intestine if breathing difficulties.
- Lung if Chest Pain.

Sample Class
Do the class for Coronary Heart Disease.

Carotid Stenosis (Carotid Artery Disease)

Description
- The narrowing or blocking of the carotid arteries to the brain (located on either side of the neck under the jaw line) by atherosclerosis.

Causes
- Carotid artery disease and atherosclerosis (hardening of the arteries).
- Over time a clot (thrombus) can form cutting off the blood supply to the brain. This causes a stroke.

Symptoms
- Symptoms could include:
  - General Weakness
  - Memory Impairment
  - Visual Disturbance
  - Speech Difficulty
  - Visual Impairment
  - Lack of Coordination
  - Fatigue
  - Numbness
  - Aphasia
  - Drowsiness
• Hazy Vision
• Ataxia (uncoordinated movement, especially in walking)

Mind-Body Connection
Carotid stenosis develops from atherosclerosis. In Shapiro’s view, atherosclerosis may develop out of growing up from a loveless childhood into an adult with hardened attitudes, especially toward emotions. This may lead to being hypercritical and having fixed attitudes about things.

Mind-Body Approach
Incorporate themes around releasing others from expectations, softening the heart, embracing one’s emotions, developing witness consciousness toward her tendency to be critical, softening attitudes, being open to changing her mind.

AfFORMations may include:
• Why do I free others from my expectations and criticism?
• Why do I allow my heart to soften?
• Why do I consciously allow my attitudes to soften?
• Why is it ok to change my mind?

Meridian Approach
• Liver if repressed anger or temper problems.
• Gall Bladder if Irritable or judgmental.
• Triple Warmer if diabetes.
• Pericardium if arteriosclerosis.
• Kidney if diabetes.
• Bladder if diabetes.
• Heart if chest pain.
• Spleen if diabetes.
• Large Intestine if breathing difficulties.
• Lung if chest pain.

Sample Class
The Same class as for coronary heart disease would be appropriate here.

Thoracic Aortic Aneurysm

Description
• Often a complication of obesity, atherosclerosis, or high blood pressure.
• A bulging anywhere along the wall of the aorta, the largest artery of the body.
• They usually grow slowly and are difficult to detect.
• Caused by a tear or defect in the aortic wall.
• A rupture may cause life-threatening hemorrhage.
• Treatment varies from watchful waiting to emergency surgery.
• Patients diagnosed with this may feel like a walking time bomb.
**Symptoms**

Smaller aneurysms are often asymptomatic. In larger aneurysms symptoms may include:

- Tenderness or pain in the abdomen or chest
- Back pain

**Causes**

- An exact cause is unknown but the following are contributing factors:
  - Connective issue diseases like Marfan syndrome, and Ehlers-Danlos syndrome.
  - Heart valve problems.
  - Aortic injuries.
  - Motor vehicle injuries.

**Mind-Body Connection**

Aneurisms develop out of atherosclerosis. In Shapiro’s view, atherosclerosis may develop when one grows up in a loveless childhood into an adult with hardened attitudes, especially toward emotions. This may lead to being hypercritical and having fixed attitudes about things.

**Mind-Body Approach**

Incorporate themes around releasing others from expectations, softening the heart, embracing one’s emotions, developing witness consciousness toward her tendency to be critical, softening attitudes, being open to changing her mind.

AFFORMations may include:

- Why do I free others from my expectations and criticism?
- Why do I allow my heart to soften?
- Why do I consciously allow my attitudes to soften?
- Why is it ok to change my mind?

**Meridian Approach**

- Liver if repressed anger or temper problems.
- Gall Bladder if Irritable or judgmental.
- Triple Warmer if diabetes.
- Pericardium if arteriosclerosis.
- Kidney if diabetes.
- Bladder if diabetes.
- Heart if chest pain.
- Spleen if diabetes.
- Large Intestine if breathing difficulties.
- Lung if Chest Pain.
Sample Class
Use the sample class for coronary heart disease.

Coronary Artery Bypass Graft Surgery (CABG)

Description

- A surgery used to treat blocked coronary arteries by redirecting a blood vessel from one area of the body to make a new passageway for the blood to reach the heart.
- One of the most commonly performed surgeries in the U.S.
- Many times the Saphenous veins in the legs are the vessels used.

Normal Symptoms 6-8 weeks after surgery

- Muscle or incision discomfort in the chest during activity.
- Itching, tightness and/or numbness along the incision.
- More pain in the legs than around your chest incision if saphenous vein grafts were used. This pain should lessen with walking and daily activities, and time.
- Swelling in the legs and feet, especially if vein grafts from the legs were used.
- Difficulty sleeping.
- Depression.
- Temporary decline in mental functioning due to stress of surgery.

Activity Guidelines for 6-8 weeks after surgery

- No standing in one place longer than 15 minutes.
- No lifting objects greater than 20 pounds (unless the doctor gives other guidelines).
- No pushing or pulling heavy objects.
- No holding the arms above shoulder level for a long period of time.
- Spread activities throughout the day. Rest when tired.
- Walk daily.
- Get a good night’s sleep

Physiological Guidelines (always get clarification from the patient’s doctor)

- If the client must take stairs into your studio have them lead up the stairs with the leg that was not operated on. Going down have them lead with the operated side. Encourage them not to lean on the arms too much.
- Take resting heart rate and keep heart rate DURING EXERCISE no more than 30 beats per minute more than it was at rest.
• The client should be able to speak to you in short sentences while they are exercising.
• Warm up and cool down well.
• Make sure the client does not hold her breath during exercise.
• Take a recovery heart rate before Savasana. Make sure it is under 100 bpm before lying down.

Peripheral Artery Disease

Description
• A common circulatory problem in which narrowed arteries from atherosclerosis reduce blood flow to your limbs.
• Because your extremities, especially the legs, don't receive enough blood flow, pain occurs with exertion (intermittent claudication).
• Likely a sign of more widespread atherosclerosis throughout the body, possibly to the heart and brain.
• Is treated by quitting tobacco, exercising and eating a healthy diet.

Causes
• Most commonly, atherosclerosis in the arteries supplying blood to the limbs.
• Less commonly, blood vessel inflammation, injury to the limbs, unusual anatomy of ligaments or muscles, or radiation exposure.

Symptoms
Peripheral artery disease symptoms may include:
• Painful cramping in your hip, thigh or calf muscles after activity, such as walking or climbing stairs (intermittent claudication). As the disease progresses, pain occurs even without activity (ischemic rest pain). Hanging the legs over the edge of the bed or walking around may temporarily relieve the pain.
• Leg numbness or weakness
• Coldness in your lower leg or foot, especially when compared with the other leg
• Sores on your toes, feet or legs that won't heal
• A change in the color of your legs
• Hair loss or slower hair growth on your feet and legs
• Slower growth of your toenails
• Shiny skin on your legs
• No pulse or a weak pulse in your legs or feet
• Erectile dysfunction in men
**Mind-Body Connection**
According to Shapiro, coronary heart disease may reflect a tendencies to
- Hold oneself back from sharing or receiving.
- Avoid emotional involvement or interaction.
- Be narrow-minded or a reluctant to accept another’s viewpoint.
- Pretend to be managing well instead of asking for help.

If hardening of the arteries is involved, this may indicate further tendencies of
- Growing up from a loveless childhood into an adult with hardened attitudes, especially toward emotions.
- Being hypocritical.
- Fixed attitudes.

**Mind-Body Approach**
Focus on themes of softening, willingness to receive and give love, releasing guilt and shame, speaking your emotional truth as soon as you become aware of it, sharing feelings, releasing restrictions, allow energy to flow freely in the body.

AFFORMations may include
- Why do I invite my attitudes to soften and relax?
- Why is it safe to admit I need help?
- Why do I ask for help when I need it?
- Why do I give and receive love so easily?
- Why do I freely release any guilt and shame from the past?
- Why do I speak my truth as soon as I become aware of it?
- Why do I freely share my feelings with others?
- Why do I release myself from so many restrictions of the past?
- Why does energy flow so freely in my body?

**Meridian Approach**
- Liver if muscle cramping
- Pericardium if arteriosclerosis
- Kidney if erectile dysfunction or cold in limbs
- Bladder if hip pain or spasms in the calf
- Heart if cold in the arms
- Spleen if weakness in the legs
- Stomach if leg pain

**Sample Class**
This is a general sample class. If you discover that kapha imbalance is involved, you can incorporate a kapha reducing practice. Like-wise, if pitta imbalance is involved, incorporate a pitta reducing practice (the following is along the lines of a pitta-reducing practice).
- Triangle (YTT 18)
- Lateral Angle (YTT 17)
- Balancing Half Moon (YTT 77)
- Standing Forward Fold with Head Supported (YTT 73)
• Inverted Staff (TPM)
• Supported Camel (TPM)
• Supported Shoulder Stand (TPM)
• Supported Reclining Bound Angle (YTT 34)
• Supported Reclining Hero (TPM)
• Supported Legs Up the Wall (TPM)
• Restorative Inversion (TPM)
• Ujjayi pranayama. (TPM).
• Sitali pranayama (TPM)
• Sheetkari pranayama - Hissing breath (TPM).
• Nadi Shodhana Pranayama. (TPM)
• Restorative Inversion (TPM)
• Supported Savasana (TPM)
• Hasta Mudra #1 (pinkies touching)
• Interlaced Mudra #1 (interlaced pinkies)
• Hasta Mudra #6 (all finger tips touching)

**Arrhythmia**

**Description**
- A heart problem characterized by irregularity in the heart rhythm.
- Occurs when the electrical impulses in the heart that coordinate your heartbeats don’t work properly.
- This causes the heart to beat too fast, too slow or irregularly.
- Can be harmless to life threatening.
- Common types of arrhythmias involving heartbeats that are too fast (tachycardia) are atrial fibrillation, atrial flutter, supraventricular tachycardia (SVT), Wolff-Parkinson-White syndrome, ventricular tachycardia (VT), ventricular fibrillation, and long QT syndrome.
- Common types of arrhythmias involving heartbeats that are too slow (bradycardia) are sick sinus syndrome and conduction blockage.
- If left untreated can lead to stroke or heart failure.

**Symptoms**
- May be no signs or symptoms or any of the following:
  - Fluttering in the chest
  - Racing heartbeat (tachycardia)
  - Slow heartbeat (bradycardia)
  - Chest pain
  - Shortness of breath
  - Lightheadedness
  - Dizziness
  - Fainting (syncope) or near fainting
**Causes**
- Scarring of heart tissue from a heart attack
- Changes to the heart's structure, such as from cardiomyopathy
- Blocked arteries in the heart (coronary artery disease)
- High blood pressure
- Diabetes
- Overactive thyroid gland (hyperthyroidism)
- Smoking
- Drinking too much alcohol or caffeine
- Drug abuse
- Stress
- Medications
- Dietary supplements and herbal treatments
- Electrical shock

**Mind-Body Connection**
In Shapiro’s view a fast heartbeat (tachycardia) may indicate the need for greater emotional balance and inner relaxation. Arrhythmia in general may indicate feeling out of rhythm with one’s life, being easily upset, or emotional insecure.

**Mind-Body Approach**
Use themes around moving in perfect rhythm in one’s life, emotions being like a lake with no ripples, feeling powerful to handle all life’s challenges, feeling emotionally strong and stable. AfFORMations may include:
- Why is my life in perfect rhythm today?
- Why are my emotions so manageable?
- Why am I able to handle life’s challenges with such ease?
- Why am I peaceful?

**Meridian Approach**
- Triple Warmer if diabetes
- Pericardium if arteriosclerosis
- Kidney
- Bladder if diabetes
- Heart if palpitations
- Spleen if diabetes
- Lung if chest pain.

**Sample Class**
Follow the class for coronary heart disease.

**Sudden Cardiac Arrest**

**Description**
- The sudden, unexpected loss of heart function, breathing and consciousness.
• Results from an electrical disturbance in your heart that disrupts its pumping action, stopping blood flow to the rest of your body.
• Can be triggered by a heart attack (where blood flow to a portion of the heart is blocked)
• A medical emergency that if not treated immediately causes sudden cardiac death.
• Survival improves with immediate chest compressions.

Causes

The immediate cause is arrhythmia. The most common type of arrhythmia involved is ventricular fibrillation where rapid erratic electrical impulses cause your heart to quiver instead of pumping blood.

Arrhythmias leading to sudden cardiac arrest can occur due to:

• Electrical shock.
• Illegal drugs use.
• Trauma to the chest.
• Heart conditions such as coronary artery disease, heart attack, enlarged heart, valvular heart disease, congenital heart disease.

Symptoms

• Sudden collapse
• No lack of pulse
• No lack of breathing
• Loss of consciousness

Although there may be no warning at all some warning signs may be fatigue, fainting, blackouts, dizziness, chest pain, shortness of breath, weakness, palpitations or vomiting.

Immediately

Begin chest compressions and call 911.

Resuming Activity

Get guidelines from the client’s physician regarding resuming physical activity before proceeding with this client. Once the client has been cleared for activity, adapt the practice for coronary heart disease to the physician’s guidelines.

Open Heart Surgery

Description

• Open-heart surgery is any surgery where the chest is opened and surgery is performed on the heart muscle, valves, arteries, or other heart
structures (such as the aorta). The term "open" means that the chest is "cut" open.

- A heart-lung machine (also called cardiopulmonary bypass) is usually used during open-heart surgery. While the surgeon works on the heart, the machine helps provide oxygen-rich blood to the brain and other vital organs.
- Newer procedures are being performed through smaller incisions, and some are being done with the heart still beating!

3 Months After Surgery
Most activities can be resumed including any of the yoga practices in this handout. Do avoid resistance stretching, which involves isometric contractions. Isometrics elevate blood pressure and put an added strain on a healing heart. To be safe it is always good to confirm guidelines with the patient’s heart surgeon.

High Blood Pressure (Hypertension)

Description
- Occurs when the blood is pumping with excessive force inside arteries that have narrowed over time.
- Untreated, can damage blood vessels and vital organs.
- Increases the risk for heart attack, stroke, kidney failure, coronary heart disease, and other serious health problems.
- Occurs in about one in three adults in the United States.
- Often asymptomatic so important to get it checked regularly to avoid damage.
- Can be treated with lifestyle changes and blood-pressure-lowering medication.

Causes
Primary Hypertension (the most common type) is not directly attributable to any one condition but is a combination of:
- Hardening of the arteries (arteriosclerosis)
- Buildup of fatty deposits inside arteries (atherosclerosis)
- Thickening of artery walls
- Excessive contraction of small arteries (arterioles)

Causes of Secondary Hypertension (only 5-10% of cases) is a result of an underlying condition, such as:
- Kidney disease
- Hormonal disorders
- Congenital Heart defects
- Sleep apnea
- Pregnancy
• Drugs and supplements such as birth control pills, hormone replacement therapy, cold-relief medicines, OTC and prescription pain relievers, antidepressants, asthma medications, drugs used for organ transplants, ginseng, and Saint John’s Wort.
• Cocaine and methamphetamines.
• Obesity

**Symptoms**

Usually is asymptomatic until one has a stroke or heart attack. Thus, it is important to check one’s blood pressure regularly. Less common High Blood Pressure Symptoms may include:

• Dull headaches
• Dizzy spells
• Nosebleeds

Emergency high blood pressure symptoms include a hypertensive crisis - a blood pressure reading of 180 or above for the systolic pressure (first number) or 110 or above for the diastolic pressure (second number). Symptoms may include:

• Severe headache
• Severe anxiety
• Shortness of breath
• Nosebleed

If you get a reading in the emergency range, take a second reading to make sure the first was accurate. If it is still high I recommend calling 911. In the meantime have the patient do hasta mudra #1 (pinkies) or interlaced mudra #1 (pinkies). This will likely bring the pressure down within about 10 minutes.

**Mind Body Connection**

In Shapiro’s view high blood pressure can relate to feeling pressured, exertion, shock conflict, or passion. Those with chronic hypertension may have tendencies toward over activity to avoid themselves and avoid acknowledging and expressing feelings. This build-up of pressure can lead to a heart attack or stroke.

**Mind-Body Approach**

Use themes around cooling, acknowledging feelings, releasing oneself from self-pressure, examining one’s feeling of being pressured by others, and facing difficulty with courage.

AfFORMations may include

• Why am I cool under pressure?
• Why do I look for ways to cool down?
• Why is it safe for me to stop and be still?
• Why is it safe to acknowledge/express my feelings?
• Why am I immediately aware when I am pressuring myself?
• Why am I immediately aware of feeling pressured by others?
• Why do I limit the pressure I allow myself or others to place of me?
• Why can I acknowledge and face my fears with courage and ease?

**Meridian Approach**

• Liver if excessive anger.
• Gall Bladder if headaches.
• Triple Warmer if headaches.
• Pericardium if arteriosclerosis
• Kidney if diabetes.
• Bladder if diabetes or headaches or nosebleeds.
• Small Intestine if Headaches.
• Heart if headaches.
• Spleen if diabetes.
• Stomach if headache.

**Sample Class**

• Standing Forward Fold with Head Supported (YTT 73)
• Downward Dog with head supported (YTT 26)
• Supported Boat (TPM)
• Reclining Hero or Supported Reclining Hero (YTT 58 or TPM)
• Seated Forward Bend or Supported Seated Forward Bend (YTT 69 or TPM)
• Single Leg Forward Fold or Supported Single Leg Forward Fold (YTT 68 or TPM)
• Separate Leg Forward Fold with Head Supported (YTT 72)
• Supine Hand to Toe or Doorway Stretches (YTT 22 or TPM)
• Bound Angle/Reclining Bound Angle (YTT 34)
• Shoulder Stand or Supported Shoulder Stand (YTT 84 or TPM)
• Plough or Supported Plough (YTT 85)
• Full Bridge (TPM)
• Supported Legs Up the Wall (YTT 86)
• Supported Child’s Pose (TPM)
• Ujjayi pranayama (TPM)
• Breath with Retention Pranayama (TPM)
• Supported Savasana (TPM)
• Hasta Mudra #1 (pinkies touching)
• Interlaced Mudra #1 (interlaced pinkies)
• Hasta Mudra #6 (all finger tips touching)
Low Blood Pressure (Hypotension)

Description

- Optimal blood pressure is between 120/80 to 115/75.
- Low blood pressure is a condition where the systolic blood pressure is lower than 90 and diastolic is lower than 60 causing symptoms of dizziness and fainting that may be indicative of a serious heart, endocrine or neurological disorder.
- Can deprive the brain and other vital organs of oxygen and nutrients, leading to a life-threatening condition called shock.

The causes of low blood pressure can range from dehydration to problems with the way your brain signals your heart to pump blood. Low blood pressure is treatable, but it's important to find out what's causing your condition so that it can be properly treated.

Causes

- Pregnancy.
- Heart problems like bradycardia.
- Under active thyroid (hypothyroidism) or overactive thyroid (hyperthyroidism).
- Adrenal insufficiency (Addison's disease).
- Low blood sugar (hypoglycemia).
- Diabetes.
- Dehydration.
- Hypovolemic shock, a life-threatening complication of dehydration.
- Blood loss.
- Severe infection (septicemia).
- Severe allergic reaction (anaphylaxis).
- A lack of the vitamins B-12 and folate in the diet.
- Medications, such as diuretics (water pills), alpha blockers, beta blockers, drugs for Parkinson's disease, tricyclic antidepressants, Viagra (especially when combined with nitroglycerine which is used to treat angina)

Symptoms

- Dizziness or lightheadedness
- Fainting (syncope)
- Lack of concentration
- Blurred vision
- Nausea
- Cold, clammy, pale skin
- Rapid, shallow breathing
- Fatigue
• Depression
• Thirst

Dizziness, weakness, and fainting can lead to falls. It may be good to have the client with chronic low blood sugar work on the wall and learn to ground herself when coming out of inversions.

Causes

• Drops in blood pressure on standing or after eating occur primarily in adults older than 65.
• Neurally mediated hypotension happens as a result of a miscommunication between the brain and heart. It primarily affects children and younger adults.
• High blood pressure medications like alpha-blockers.
• Parkinson's disease, diabetes and some heart conditions.

Mind-Body Connection

Shapiro’s view is that low blood pressure is indicative of

• Resistance to entering into life fully and fearlessly.
• An inner weakness and a desire to pull back.
• Easily feeling overwhelmed.
• A powerless or hopeless response to pressure.
• An inability to meet life face-to-face.
• A giving up attitude.

Can also occur with someone who has fully merged with life through meditation and has no inner resistance at all.

Mind-Body Approach

Use themes around entering into life fully and fearlessly, strength to move forward, powerful ability to easily meet the demands of life, hope that there is always a way, meeting life head-on, never giving up. AfFORMations may include:

• Why do I enter into life fully and fearlessly each day?
• Why am I full of inner strength?
• Why am I powerful enough to meet the demands of my life?
• Why do I face life as it comes?
• Why do I persevere no matter what?
**Meridian Approach**

- Liver if depression, blurred vision, lack of concentration, or nausea.
- Gall Bladder if blurred vision or mental indecision.
- Triple Warmer if cold, clammy skin.
- Kidney if cold in the limbs, diabetes, or fatigue.
- Bladder if diabetes or blurred vision.
- Small Intestine if blurred vision.
- Heart if depression or extreme thirst.
- Spleen if depression, diabetes, fatigue, or vomiting.
- Stomach if blurred vision, fatigue, or vomiting.
- Lung if rapid, shallow breathing.

**Sample Class**

- Downward Facing Dog with Head Supported (YTT 26)
- Separate Leg Forward Fold with head supported (YTT 72)
- Standing Forward Fold with Head Supported (YTT 73)
- Shoulder Stand on Chairs (TPM)
- Head Stand (YTT 87)
- Inverted Staff Pose (TPM)
- Supported Camel (TPM)
- Cobra (YTT 51)
- Supported Seated Forward Bend (TPM)
- Supported Single Leg Forward Fold (TPM)
- Supported Shoulder Stand (TPM)
- Supported Plough (TPM)
- Supported Reclining Bound Angle (YTT 34)
- Supported Reclining Hero (TPM)
- Restorative Inversion (TPM)
- Supported Legs Up the Wall (YTT 86)
- Ujjayi pranayama. (TPM)
- Pranayama with Retention (TPM)
- Supported Savasana (TPM)
- Hasta Mudra #4 (Index fingers touching)
- Interlaced Mudra #4 (Interlaced Index Fingers)
- Hasta Mudra #6 (all finger tips touching)
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