

## Part 2: Principles and Procedures of Therapeutic Modalities, Electrical Stimulation, and other Modalities

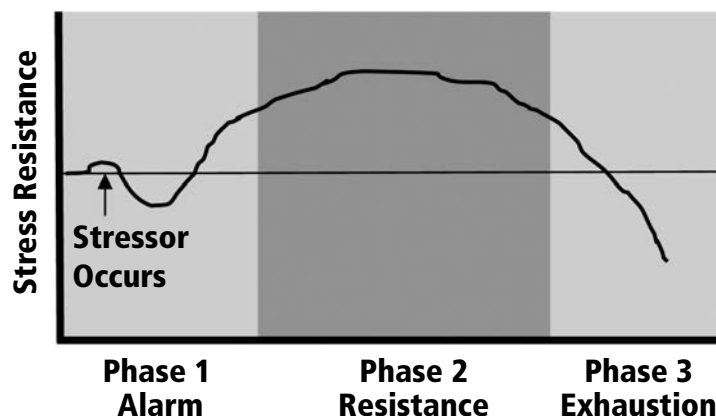
Review pages 166-192 for this section of the workbook

### Understanding the body's response to pain and healing

*Adjustments are the basis for treatment by the majority of chiropractors. Many chiropractic clinics choose to utilize an array of therapeutic modalities to enhance the effects of treatment, and compliment the chiropractic adjustment. Each state varies in its laws, but typically the treatment must be prescribed by the doctor. Dependant on the individual state, the chiropractic therapy assistant can administer the treatment under the supervision of the chiropractor.*

Physical injury can create numerous stressors on the body at the cellular level. Therapeutic modalities are beneficial because they help to create an environment, often at the cellular level, that allows the body to better heal itself. Modalities are considered therapeutic when an external stress is applied to the body that is conducive to the healing process. According to the General Adaptation Syndrome (G.A.S.), the body goes through three stages of stress response that leads up to injury or trauma.

1. **Alarm stage** – the body mobilizes its defense force to combat the aggressor or the stressor.
2. **Resistance stage** – the body's reactive process slows and the natural adaptive process continues to create equilibrium within the body tissue.
3. **Exhaustion stage** – stressors overcome the physiologic response of the body and injury such as overuse or trauma occurs.



The previous chart shows the phases of the General Adaptation Syndrome. Once these stages occur and injury is present, the healing process begins.

There are three phases in the healing process. Each phase may overlap with the other phases, but individually they have a distinctive role in the healing process. During each particular phase, there are different therapeutic modalities that are beneficial and may help to speed up healing.

1. **The Inflammatory Response Phase-** This phase begins as soon as injury occurs and can last two to four days. This phase is characterized by redness, swelling, point tenderness, and increased temperature. Therapeutic modalities during this phase work to reduce swelling and control pain. They include ice, electrical stimulation, ultrasound, low-powered lasers, and mild range of motion exercises. In addition, dependent on location of the injury, patients should be instructed to follow the R.I.C.E. principle of Rest, Ice, Compression, and Elevation to help prevent further injury to the area.
2. **The Repair Phase-** This phase begins shortly after an injury and may last two to four weeks. The goal of this phase is for the body to remove the waste of the inflammation response and begin laying down scar tissue. The goal of modalities in this phase is to assist the body in cleaning up the injury site and forming scar tissue. Common modalities used are electrical stimulation, heat, ice compression, low powered lasers, and exercises.
3. **The Remodeling Phase-** During this phase, the body tries to organize and strengthen the scar tissue. This phase may last up to several years. Modalities in this phase should help strengthen and align scar tissue and improve strength of the surrounding musculature. Modalities include ultrasound, diathermy, electrical stimulation, and most importantly exercise rehabilitation.

*Pain scales are useful while a patient is going through therapy to establish a baseline and to monitor the amount of improvement a patient may experience as they progress. Everyone's sensation of pain and its severity is different, but using a consistent pain scale will allow you to see the progress for that patient. Many pain scales are a form of a visual analog scale where patients mark where their pain falls on a line. Patients may also use pain charts, where they draw their pain on a body or numeric scales where they give their pain a rating of 1 to 10. On the next page are some examples of what pain scales or charts may look like.*

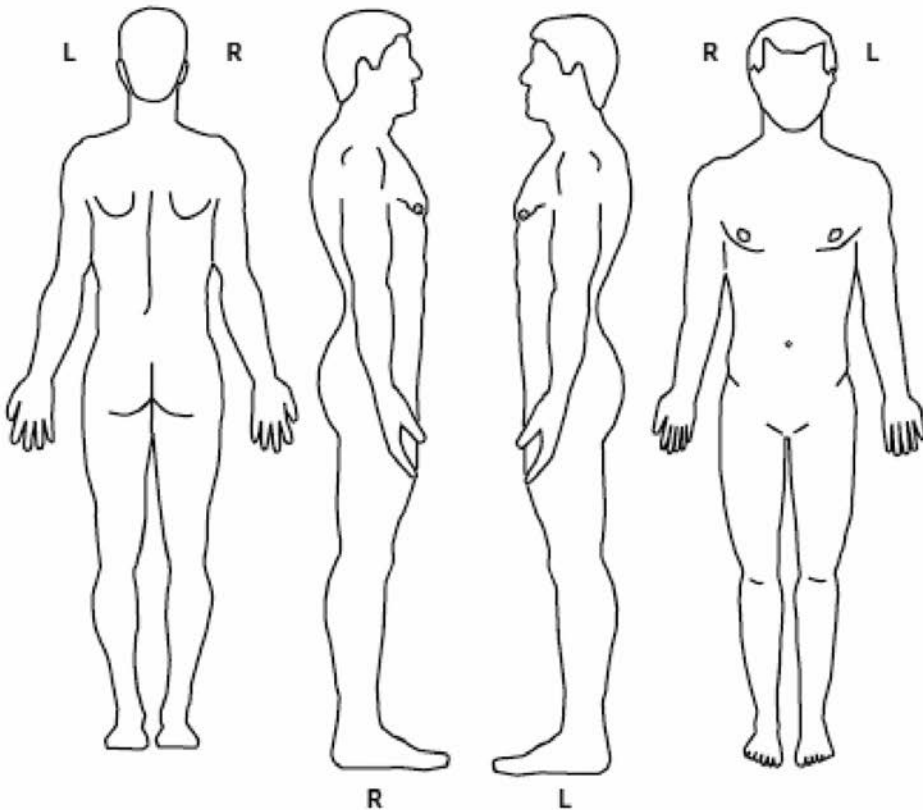
No Pain \_\_\_\_\_ Severe Pain



No Pain 1 2 3 4 5 6 7 8 9 10 Worst Possible Pain

PAIN DRAWING

Name \_\_\_\_\_ Date \_\_\_\_\_



Mark as follows:  
A-Ache B-Burning N-Numbness P-Pins & Needles  
S-Stabbing O-Other-Describe \_\_\_\_\_