STROKES

The following is an overview of some strokes and techniques that you have learned so far and some of their effects:

Body Mobilization Techniques (BMTs):
- warms and loosens joints
- stretches tissues, muscles, tendons and joint capsules
- realigns scar tissue; lengthens overly contracted tissues
- increases range of motion

Cold application (primary reaction to cold):
- decrease blood flow
- reduces metabolic activity
- reduces/prevents swelling
- analgesia

Compression:
- stretches connective tissue & muscle fibers
- increases muscle tone, by stimulating muscle spindles

Core exercises:
- strengthens weak muscles
- targets muscles that help to stabilize the torso during activity, thus creating postural stability as the limbs move through space
- can correct imbalances in tissue length

Cross fiber friction:
- prevents adhesions and excessive scar tissue formation during tissue healing
- separates adhesions
- causes a local hyperemia (an increase of blood supply)

Effleurage:
- increases rate of superficial circulation of venous blood and lymphatic fluid
- decreases swelling caused by injury or strain
- provides greater nutrition to and drainage of waste from tissues
- slow, rhythmic effleurage reduces sympathetic nervous system firing, decreasing muscle hypertonicity and related pain

Heat application (primary reaction to heat):
- vasodilation
- increases local blood flow and nutrition
- increases metabolic rates within cells
- softens connective tissue and increases extensibility
- analgesia

Ice:
- The numbing effect of ice will help to inhibit nerve impulses in the area, reducing spasm and pain, and will also help to control inflammation in the area, if present.
- Ice application by itself may help to break a cramp.

Ischemic compression:
- causes a local ischemia followed by a local hyperemia upon release of pressure
- used to inactivate trigger points

Jostling:
- relaxes tense, held tissues and joint structures due to overstimulation of proprioceptors

Muscle spindle technique/Approximation:
By manually bringing the two ends of muscle fibers closer, the spindle cells within the fibers feel the muscle shorten. They will then cause the muscle fibers to relax in order for the muscle to be comfortable in this shortened position.

Muscle stripping:
- increases circulation to a targeted band of muscle
- prepares muscle for deeper work such as friction and ischemic compression
- repetitive muscle stripping can be used to treat TP's in a muscle belly

Myofascial release:
- restores elasticity to the myofascia by restoring critical interfiber distance
- creates elongation of the connective tissue
- releases fascial restrictions and adhesions
- increases ROM if fascial restrictions and adhesions were limiting movement
- aids in relieving postural distortions (by lengthening adaptively shortened tissues and disinhibiting eccentrically lengthened tissues)
- increases circulation in chronically congested or ischemic muscle tissue
- helps to relieve trigger points
- helps to relieve muscle spasm
- increases golgi tendon organ firing which can reflexively calm the muscles
- relieves pain caused by:
    - fascial tension on cutaneous neurons where they pierce the fascia
    - tension on nerve roots as they exit the vertebral column
    - entrapment on terminal nerves as they travel through muscles

Passive movements:
Passive movement stretches joint tissues such as tendons, ligaments and the joint capsule, stimulating synovial fluid secretion and breaking up adhesions.

Petrissage:
- increases deep venous and lymphatic flow, thereby mimicking the circulatory benefits of contraction of skeletal muscle
- deeper petrissage can loosen muscle and connective tissue adhesions
- decreases muscle tone

Reciprocal Inhibition:
- can bring fast relief (often instantaneous) from muscle cramps
- stretches muscle tissue in targeted muscle

Stretching:
- increases the resting length of the muscle
- reduces adhesions
- provides longitudinal stress to tissues (healing from injury), to aid in the proper alignment of new scar tissue formation

Sustained compression:
Sustained compression is the easiest thing to do for cramping right away, but not necessarily the most effective. The therapist must hold the cramp with steady pressure; excessive movement can irritate the muscle and exacerbate the cramp. Sustained compression is the most practical technique to use if a therapist finds herself trying alone to manage an athlete suffering from multiple cramps.

Tapotement (percussion):
- when performed over the thorax, loosens chest congestion
- facilitates muscle contraction, if done to the belly of the muscle
- initially nervous reflexes cause blood vessels in the skin to contract, after prolonged application blood vessels will dilate due to the release of histamines
- increases muscle tone by increasing sympathetic nervous system firing

Vibration:
- reduces pain by blocking nerve signals (gate theory of pain)
- over the thorax loosens mucus in the lungs
- over the stomach and intestines stimulates peristalsis and causes movement of gases