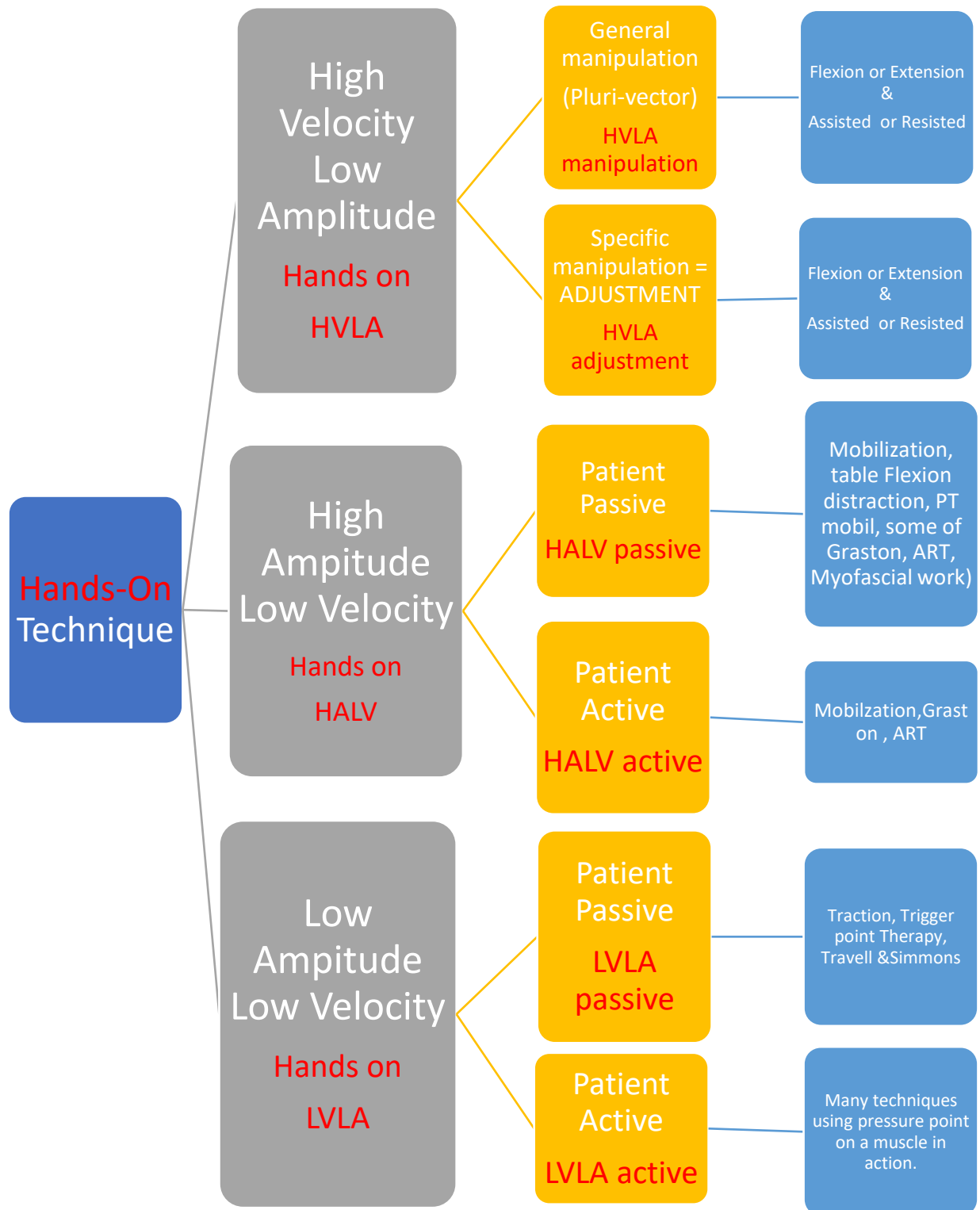


I. Classification of the adjustment in the manual therapy family:



A. Organigram and definitions:

For many years any procedure aimed at correcting or reducing joint subluxation and restore normal alignment was branded chiropractic as long as the practitioner was a chiropractor. Under the same premise the term “adjustment” could have described a wide variety of very different protocols. (1) At the time, chiropractors were almost the only ones in serious numbers to be interested in mechanical treatment of the spine. Such inconsistencies have polluted the scientific debate, within the profession and outside the profession, regarding our relationship with other professionals.

With the increased interest in manipulative therapy and the multiplication of professionals performing spinal manipulation outside the chiropractic realm; it becomes important to rectify those inconsistencies and adopt definitions based on physical description of mechanical issues, completely void of dogma. This will provide an excellent communicative tool, and will permit the effectiveness of different chiropractic procedures. Finally, it will help preserve the chiropractic and scientific contribution to the field of Spinal Manipulative Treatment. (SMT)

The physical attributes associated with a technique should incorporate measurable and distinctive characteristics.

Spinal Manipulative Therapy is only a part of a bigger family of techniques that we name Hands-on Techniques

Hands-on techniques consist in all the therapeutic techniques using someone's hands to heal another body while establishing a direct contact or semi-direct contact via light instrumentation (massage knob, activator tool, wooden bar etc...)

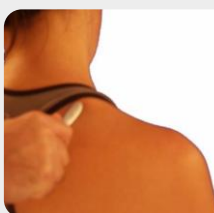
Hands-on technique: could be divided in three big families HVLA High Velocity Low Amplitude and HALV (High Amplitude Low Velocity).

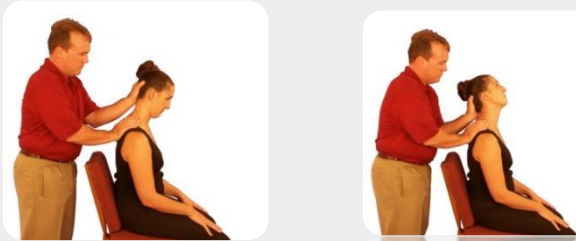
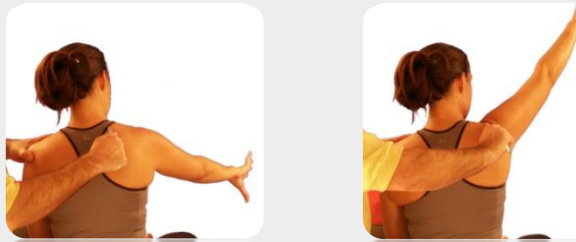
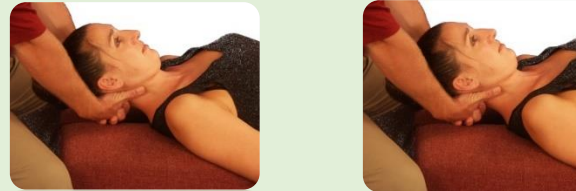
HVLA (High Velocity Low Amplitude) typically involves a very fast movement with a very small amplitude of the doctor/therapist hands and is usually followed by one or several noises at the articular level (cavitation).

HALV (High Amplitude Low Velocity) involves an important motion of the doctor/therapist hand, such as the one following a flexion of the neck, performed at a slow pace repetitively. It is usually not followed by a noise.

LALV (Low Amplitude Low Velocity) involves a low amplitude slow motion of the doctor/therapist hand, such as pressure, performed at a slow pace for a certain time.

A few examples of different techniques and their respective classification

HVLA			<i>Toggle recoil</i> HVLA using a drop cervical headpiece
LVHA passive			<i>Flexion distraction</i> of the lower lumbar using a Flexion-Distraction table.
passive			<i>Passive flexion</i> of the Elbow by doctor/therapist
passive			<i>Friction</i> of the supra Spinatus muscle using a specialized tool.

Active		<p><i>Patient is actively pushing in extension against the doctor's hand resistance</i></p>
active		<p>Friction of the supra Spinatus muscle using a specialized tool, while the patient is actively raising its arm.</p>
LVLA passive		<p>Manual traction of the head</p>
passive		<p>Cross friction of the medial plicas of the knee using a thumb edge contact</p>
Passive		<p>Patient treated on blocks using gravity as the corrective force. (technique similar to SOT)</p>

HVLA uses a high velocity and the patient is always passive and never active during the treatment; accordingly, you will notice in the organigram that the subdivision of HVLA is not made of active and passive but from specific and non specific.

As mentioned earlier about HVLA, the name used is dependant of the SMT practitioner who performed the protocol. Vertebral manipulation, chiropractic adjustment, osteopathic manipulation were all used without much of a fine line to differentiate one from the other. What are the biomechanical factors which could differentiate manipulation from adjustment? They are all HVLA type of Hands-on treatment.

Manipulation or adjustment?

Both movements will usually use a high velocity low amplitude movement called a thrust. Historically chiropractors have preached “segmental precision” in their treatment of the spine. Many techniques taught in private seminars have tempted to give a rationale to a high specificity. In this context, it seems judicious for the author to define adjustment as a precise and specific high velocity low amplitude movement, or thrust, on the osteo-articular structures, aimed at moving the smallest amount of di-artrodial joints. The gauged adjusting thrust has a controlled velocity depth and direction. (2)

On the other hand, manipulation of the spine and extremities will encompass general and specific high velocity low amplitude manipulations. The adjustment will represent only the “specific” portion of **HVLA (High Velocity Low Amplitude)** type of spinal manipulative therapy (SMT) and extra-spinal manipulative therapy (ESMT). This, restrictive definition, was used by the author after it was suggested by a speaker at the WFC (World Federation of Chiropractors) in Florida (Sept 2000). It is the opinion of the author that a too broad definition of the adjustment as suggested by some (3 p. 93) overlaps with too many protocols and ends up embracing so many things that it becomes vague and of little utility. If you see in this book “specific adjustment”, then consider it as a friendly oxymoron inserted on purpose by the author just in case the reader did not come to this chapter.

Joint mobilization involves high amplitude low speed movement applied passively within the physiologic range of joint motion, without the use of any thrust. Those techniques are classified as hands-on treatment with high amplitude low velocity or.

Hands-on HALV; they can be subdivided in techniques which require participation from a patient, where the patient is asked to perform something; in this case they are called **active HALV**. An example of such a technique would be when a patient is asked to contract a muscle against doctor manual resistance; those techniques are often also called AROM techniques (active range of motion technique) or active mobilization techniques.

On the other hand passive range of motion technique are called PROM techniques and they are those techniques for which the doctor/therapist make the articulation move without an active participation from the patient; they can be named also passive mobilization technique. They can address the articulation or the muscle or both; Example the Graston technique using a metal instrument if performed on a non-active patient can be classified as a **passive HALV technique**.

Another type of passive HALV technique may use a bigger type of equipment such as the Flexion/ distraction tables.

Manual traction/distraction table induces a pulling force on the spine while the doctor hand localize this traction.. There are two well - known techniques in the chiropractic profession. The Cox technique, with flexion distraction performed on a specific table with the pelvic part lowering itself on the caudal aspect to induce distraction of the lumbar spinal segments, while the lumbar is in flexion; and the Leander technique a technique using a similar pelvic part, but this time inducing distraction while the patient's lordotic curve is maintained. Any technique using the mechanism of those tables can be classified as **Low Velocity High Amplitude Hands on technique**



Cox table



Leander table

Cox table

Leander table

The Low Velocity Low Amplitude hands on treatment regroups techniques such as manual traction, trigger point therapy as taught by Travell&Simons (3), Cranial Treatment as described by Magoun (4), pelvic treatment using block as described in SOT by Dejarnett and many more. Some of those techniques require an involvement of the patient through movement or through passive contraction.

Even if the amplitude of the patient's movement is important; as long as the doctor/therapist hand does not move, the technique will be classified as Low Velocity Low Amplitude. Example. A manual thumb compression on the belly of the Supra Spinatus muscle while the patient is abducting his arm is classified as a Low velocity low amplitude hands-on technique. The same technique but with the doctor thumb moving along the Supra-Spinatus length during the abduction movement is considered a **Low Velocity High Amplitude hands on treatment**

The notion of **assisted** and **resisted** technique has been described in the thoracic spine (3); then in the lumbar (4), and only lately have we seen it as a tool for general classification (5). The name of assisted or resisted technique is taken in regard to the direction of the thrust.

In an assisted technique, both contact hands will move (usually rotate) the vertebra in the same direction; the inter-vertebral movement is not produced between the treating hands but above or below. In a resisted technique the two hands will move those vertebrae in opposite directions; and the inter-vertebral motion is produced between those two hands. We will come back multiple times to the description of assisted and resisted technique after the description of the mechanism, the “arc of tension”.

The notion of **treatment in flexion or in extension** classifies manipulative techniques according to the initial movement impressed in the set-up of the technique. Specific cervical treatment usually involve flexion first as they involve tension of the posterior longitudinal ligament. Specific thoraco-lumbar treatment involve more frequently extension