

## CATEGORY FIVE-TRAPEZIUS ANALYSIS (PART 2)

In our last two ‘Expression’ articles, we have discussed the occipital fibre and trapezius fibre work of DeJarnette with some additional thought and procedural input from David Denton. We introduced some concepts of the trapezius work which have been to some degree overlooked in post-1970 SOT namely, the fact that the major trapezius demands either a SOTO or COTI piriformis movement and that once the movement subluxation is neutralized we then need to do a visual analysis in the distortion analyzer in search of the area of articular pattern subluxation. There is the situation of the single trapezius finding and the question of the multiple trapezius remembering that all of the above is predicated upon a proper patient preparation by the pelvic block placement.( 1)

What did DeJarnette think of the Trapezius work? Well you already know that he thought it important enough to raise to Category Status in 1970, as we are discussing in this article series.

A crisp and precise description of trapezius analysis usefulness is offered, thus: A blind chiropractor can with proper use of the trapezius, do better analytical technique on any patient through palpation of the trapezius alone than can a sighted chiropractor do with all of his machinery, minus the trapezius. If you fail to understand the central nervous system, the musculoskeletal systems and their reactions and action, and the effect they have upon total man through his central nervous system as it emits from the intervertebral foramina, then you must understand and use trapezius palpation (2).

A “big statement” from DeJarnette, but why not, for such an important muscle? DeJarnette reminds us that the trapezius muscle is the only skeletal muscle innervated by a cranial nerve, the spinal accessory, so this is a skeletal muscle under conscious control for function and autonomic control for protection and reaction to change (3).

As promised in Part 1, in this our second part of the trapezius fibre analysis study, we hope to offer our readers the definition, description, discussion, differentiation and development of the work. Let’s get started.

### DEFINING TERMS

“The Chiropractor must have a means of determining when a vertebral misalignment becomes a vertebral subluxation” (4). Those amongst our “Expression” readers who have an interest in classical chiropractic concepts will recognize this misalignment v subluxation discussion as having its source in the Palmer green books, in particular, BJ’s 1934 volume “The subluxation specific – the adjustment specific” (5). Both BJ’s and Majors’s writings suggest the importance of the neurological component of subluxation. DeJarnette offers the fact that:

“A misalignment becomes a subluxation when its cord segments become associated with malfunction of the body unit.” And “that the distortion analyzer will show patterns of misalignments as will the spinal x-ray” (6). Of course, in the distortion analyzer we are observing distortions. These are defined as massive movements of structure produced by abnormal muscular response to stimuli and maintained by muscular fixation points. They are muscles in uncontrolled action and reaction (7). The distortion analyzer is probably in much less use today than in previous years due to the ease of measuring sways in Cat I, II, III categorization and the advent of the five step analysis, also post 1970; at least, that’s our opinion.

## PRACTICAL MATTERS

In the Occipital fibre analysis article (Expression, winter 2007), we wrote about two aspects of that work which DeJarnette, suggested as being of use – the banjo strings analogy and the use of a one foot plastic ruler with raised surfaces which helped in palpation. Always the practical person, DeJarnette, likewise, offered two good helpful devices for trapezius analysis, namely, the use of “pressure drills” and the use of the “trapezius scale” (a.k.a the Trapezius area finder) – a 1962 device made of flexible fibre glass (8,9). Each in turn:

### 1. THE PRESSURE DRILLS

Trapezius palpation is done systematically upon the seven spaced areas of the two trapezius muscles, from transverse process of dorsal one to the clavicle – acromion of the scapula junction. DeJarnette determined (10) that the closer you palpate to the origin of the trapezius the less pressure you use, while the farther away from the origin, your pressure should increase in proportion to the distance involved. The difference between Occipital fibre palpation and trapezius fibre palpation is that with the occipital fibres you are judging by nodulation. The trapezius reactive area is not judged by nodulation but by tissue resistance to designated degree of pressure upon pre-selected area.

The trapezius muscles are palpated with predetermined pressures and those pressures must be accurate to be efficient. The pressure table, with the areas involved and the appropriate degrees of pressure is shown in table one. Starting with area 7 and moving out to area 1, DeJarnette determined that a one-half pound increase for each area was indicated. For those readers born in “metric” times, it is easy to round this out to make it a 2 to 1 ratio, thus 1 pound equals 0.5kg.

To acquire the pressure skill needed, you use two ‘food scales’ weighing from one to twenty four pounds, or one to ten kilograms (the one in the photograph was \$2 from a local Salvos shop). You place the food scales on a table and for ten minutes each day you work at placing your thumbs on the scales and applying increasing increments of pressure from 0.5 kg to 2.0 kg in quarter kilogram increases. When you get good at this, after a short period of time, you can close your eyes and call out a number and you can fairly accurately apply that amount of pressure. (When you get really good you can get a job at your local butcher. Thus “Mrs Jones, these four sausages and my thumb weigh 3 kilos” –

butchers joke). “If you use fifteen pounds pressure upon the trapezius in your palpation, you create areas of resistance. If you are supposed to use four pounds pressure and use only one pound, you are not developing enough force to produce a reaction”(12).

DeJarnette further stated the occipital/trapezius difference: “Where the occipital fibre is defensive, the trapezius areas are reactive. The occipital areas form because changes occur in the cerebrospinal or visceral systems of the body. The trapezius reactive areas or area develop when specific stimulus from one vertebra sets off a musculoskeletal reaction in one group of muscles or when multiple areas of vertebral stimuli attack the multiple areas of musculoskeletal functions. The trapezius will react as one specific cause or it will react from multiple areas acting as multiple causes.” (13)

## 2. THE TRAPEZIUS AREA FINDER

The trapezius area finder or trapezius scale, first described in 1962, was introduced at the 1963 Sacro Occipital technic convention and was in vogue for the next decade. Here is a description of its usage from DeJarnette’s 1970 notes (14):

“The trapezius scale is essential to those learning to space the trapezius line into seven equal areas for palpation. The basic landmark is the acromio-clavicular vee. This dotted with a skin pencil.

“The trapezius scale is grasped in your left hand for marking the right trapezius. The rounded end is placed against the first dorsal and pressed tightly into position. The numbered end of the scale is then moved until the seventh hole on one of the lines covers the dot you have placed. Hold in position and using your skin pencil, dot the seven areas. Record the line used for future reference and use. Hold scale with right hand in marking the left trapezius.

“The trapezius scale is made of a special fibreglass and is flexible and not easily broken. Do use it until you learn the approximate spacing for each trapezius. The scale proper has seven lines with seven holes on each line. The shortest line is four and a half inches, the longest is seven inches. With this arrangement, one scale will fit all trapezius lines.” (See diagram no. 2)

The trapezius scale is not available today but in any case, for the person learning to “space” the seven areas, our suggestion is to move out from 7 to 1 and then to move back with thumb pressure from 1 to 7. It does take a little bit of practice yet like the food scales usage, is a worthwhile procedure for improving your abilities.

## ANALYTICAL PROCEDURE

At this stage, we would like to remind our readers that the information you are about to read has been gleaned from the SOT texts previous to the category procedure of 1973, as is taught today. Some of the concepts of the 1970 version of SOT were nevertheless pretty neat and crisp (and thus this article series). Sadly, many of the

DeJarnette texts we reference are not available today, yet, for those of you who really want to understand the work of DeJarnette, SOTO A/Asia does have the 1981 masterpiece “Philosophy, Art and Science of Sacro Occipital Technique” for sale – call Averil today!

The step-by-step analytical procedure starts with the patient standing on the Distortion Analyzer.

Diagram 3a shows the person with the near normal posture. In Diagram 3b, the sacral crest is vertical and has moved to the right. This is a right SOTO distortion. In Diagram 3c, the sacral crest is right of centre and has rotated right. The convexity is to the right. This is listed as a left COTI distortion.

The SOTO is a leg movement correction ipsilaterally. The COTI is a leg movement correction used to stretch the piriformis muscle on the side of sacral convexity. When the sacral crest rotates to the right, the right piriformis contracts, whereas the opposite left piriformis is elongated but not relaxed.

So the step out turn out is the use of the leg on the side of sacral crest laterality to cause the piriformis muscle to contract and draw the pelvis back into normal position by fulcrum to femur. The cross over turn in (COTI) is the use of the leg on the normal piriformis side to generate a stimulus which will result in the normal piriformis contraction so the opposing piriformis may be elongated.

You’ve listed your patient as normal, L or R SOTO or L or R COTI. You now lay your patient prone and ask yourself these three questions as you do your procedure (16):

1. Is the clinical problem muscular?
2. Is the clinical problem neurological?
3. Is the clinical problem an articulative subluxation?

The primary situation is trapezius, occipital and articulative. The multiple situation is a combination of the above without specifics. In the words of former SOTO A/Asia instructor Dr Mark Postles, when confronted with a problem, let’s “chunk it down.”

a) Is the clinical problem muscular?

Simply stated, muscular problems respond only to muscular techniques. Muscular problems are analyzed only by trapezius findings. Trapezius palpation identifies “muscular” distortions. A major trapezius gives you specific vertebral areas to check for muscular problems.

The trapezius chart gives you the vertebrae to check when the patient has a specific trapezius fibre (Diagram 4). The basic clinical problem here is one involving muscular fixations. The trapezius identifies certain vertebrae that are then marked with your skin pencil. Those marked areas become the sites to observe in the distortion analysis for the “movement subluxation.” Neutralizing this area of “movement subluxation” permits the true subluxation pattern to appear.

b) Is the clinical problem neurological?

When the problem is neurological, the occipital fibre is the most useful part of the patient's anatomy that you can study. When the problem is not neurological, the occiput is either negative or very multiple.

c) Is the clinical problem articulative?

For now we refer our readers to Chapter fourteen, 'Articulative adjusting' in the last manual written by DeJarnette, *Sacro Occipital Technique* 1984 (also available from Averil at SOTO A/Asia). This work deserves its own article to be written by us in the near future.

Let us repeat that "muscular," "neurological" or "articulative" are "predicated on sound blocking procedures" and offer this advice from De Jarnette on where and when to adjust:

"We have the category system which defines many parts of the body. We have the trapezius and the occipital fibres. We have palpation and we have symptomatology.

We know that many shoulder and back problems are associated with category two. We know that many articular problems are part of Category One and its visceral tie-ups. We know that category three limits all motion because it maintains its own abnormal motion.

We caution you on one point. The arm fossae tests are invaluable in deciding what happens when you adjust an articulation. Do the arm fossae before the articular adjustment and then after that adjustment. If the arm fossae improve with your articular adjustment, your adjustment was indicated and efficient. If the arm fossa blows and becomes positive, your articulative adjustment should not be repeated."(17)

#### SOTO and COTI Procedure:

So far in 1970 procedure, we have checked for piriformis contraction or elongation in the distortion analyzer, then placed the patient prone and checked our trapezius fibres (and eliminated the neurological and articular) and marked the levels with a skin pencil. If a Category one, you have blocked the patient for three minutes. If a Category II, you've checked arm fossae and found them to be negative. You now have the patient stand up in the distortion analyzer, check distortions and then do a standing SOTO or COTI which is done before the standing determination of the 'movement subluxation.'

Movement subluxation selection is done following the SOTO or COTI and is performed within a 30 second time interval. Here are four outcomes (we've written about SOTO but the same applies for COTI):

1. The patient receives a standing right SOTO and the correction doesn't hold. At 30 seconds, they present the same lateral position as before being given the right SOTO adjustment, the left dollar sign is painful therefore this is a sacral problem.
2. The patient's right SOTO procedure retains complete sacral crest correction for 30 seconds and at that time distinct movement occurred at the superior spinous (the thoracic as opposed to the lumbar). This is the movement subluxation for neutralization.
3. After the right SOTO, the patient presents with a right inferior occipital tilt plus a sacral crest which did not retain correction. Left dollar sign suggests a sacral problem.
4. The right SOTO procedure is performed and the patient returns to the vertical axis but the right inferiority of occiput is present. This indicates an atlanto-occipital involvement. Neurtralization is used only when a dorsal or lumbar is involved.

Once the movement subluxation of the trapezius analysis is corrected an "articular" will present. (As mentioned, we will leave the full discussion of articulative for a future paper).

In succeeding visits, much of the primary procedure can be eliminated as the need for the procedure or those procedures disappears. The area of structural articular subluxation is restudied each visit and this area may upon occasion change location as new pattern develops

We are sure that many of our readers by this stage will be in a state of shock from reading this article, with its concepts of movement subluxation, SOTO and COTI involvement, distortion pattern analysis and mention of articulative sulaxations, yet these are concepts that DeJarnette continued to write about in the 1980s

### Summary and Conclusion

In modern, post 1970 SOT procedure, the trapezius analysis has to some degree been marginalized in terms of application to the status of an emergency musculo- skeletal procedure. Of course some fantastic advancements such as the mind language test, five step analysis including the arm fossa test and the category indicators were developed.

This article, in which we have explored the trapezius procedure circa 1970, suggests perhaps a deeper appraisal in trapezius analysis influence on distortion and subluxation is required. If you have read thus far, and you do not own either the 1981 PAS or the 1984 SOT manual, your next step is to call Averil, as you are missing out. Our next article will be on category six, the anterior vertebral subluxation.

Until then, we remain

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References:

1. De Jannette MB
2. De Jannette MB
3. De Jannette MB
4. De Jannette MB
5. Palmer BJ
6. De Jannette MB
7. De Jannette MB

Dear Darren,

Hope you can write a few lines about what an honor it is to receive a letter from Scot P. and that another Scot, Scot Wusterberg had done such a wonderful job of editing before you took over. ( Acknowledge, acknowledge, acknowledge)

Then

Repeat what you wrote 2 issues ago or so about how you look forward to receiving letters from the field.

Ps, For our next issue, I am working on a letter from Keith Bastian.

Kind regards

Attention Averil,

Please proofread and let us know what you think. Full references, diagrams and tables and photograph to follow shortly

JK

## REFERENCES

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13. DeJarnette MB, PAS, 1981
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## GLOSSARY

**DISTORTION:** Are defined as massive movements of structure produced by abnormal muscular response to stimuli and maintained by muscular fixation points.

**MOVEMENT SUBLUXATION:** That area in the spine which over compensates for muscular splinting and fixation, seen only when the proper SOTO or COTI has been effectively used.

**ARTICULATIVE SUBLUXATION:** That condition of an articulation as the result of traumatic misalignment.

**INDICATOR:** That point on the patient's body which has resulted from an insult to an articulation directly communicating from the insulted area to the indicator area and a notochord development.

**SOTO:** The use of the leg on the side of the sacral crest laterality to cause the piriformis muscle to contract and draw the pelvis back into normal position by fulcrum to femur.

**COTI:** The use of the leg on the normal piriformis side to generate a stimulus which will result in the normal piriformis contraction so the opposing piriformis may be elongated.

**TRAPEZIUS MAJOR:** The use of the shoulder girdle extending laterally from the spinous process of dorsal one to the acromio-clavicular union for detection of muscular bundles. These form when skeletal muscles must maintain contraction to act as splints to areas of the musculo skeletal system receiving abnormal and continued stimuli from a specific cord level.

**DISTORTION ANALYSIS:** The process of visual examination of a person as that person stands in the distortion analyzer with arms to side and eyes straight forward.