

## New Theory of Spine Dynamics Sameh's theory About Spine Dynamics and New Trends for Management of Spine Disorders

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It has been about 2 years since I have announced about my theory of Spine dynamics on my Academic groups of EWNC which I think it will change our concept about management of spine treatment world wide.

This is My own theory about spine.

"The main function of the spine is to move not to be fused, most of movement of the spine occurs on the level of facet joints not on discs, The main function of disc is weight bearing, degenerative changes occurs not only on the level of discs but also on the level of facets, to keep spine mobile you have not to replace disc only but the more important joint you have also to replace is affected facets"

I call this Sameh's theory about spine dynamics.

### **This theory will answer these questions:**

1. Why back pain predominate sciatica and claudication pain?
2. Why back pain is least improvement than sciatica and claudication after spine surgeries?
3. Why we have failed back syndrome and SI joint pain post operative?
4. Why after discectomy we still have back pain even with good fusion of bodies?
5. Why TILF and PLIF and artificial discs in cervical and lumbar still not give the desired results?
6. Why motion preservation devices failed to preserve motion?
7. Why disc protrude to the side and complaint of patient is on the other side?

### **All theories before cannot answer these**

#### **Back to dynamics**

#### **As I said before spine function is to move not to fuse:**

1. When you make fixation you only transfer stresses and this is not a solution for the problem and this is the cause of development of adjacent segments and SI Joint pain.
2. Most of stresses of motion occur at level of facet joints But stresses of weight bearing occur at disc that's why when you make posterior fixation and cancel movement at the facet joints there is some pain relieve till more stresses on the above facets fail and adjacent segments develop other pain.  
That's why also PLIF and TILF Didn't give us any add on results.
3. When you try to preserve motion on the disc only either on cervical or lumbar at last will fail because there will be fusion at the level of facets so no motion preservation.
4. Every facet differs from others in shape, size, direction of movement, stresses on it in the same person.

#### **Application of this theory**

1. In the future we have to change our concept about solving spine problems by just fusion.
2. Our aim in the future is to keep spine movement to solve it's problem.
3. To preserve motion you have to replace both Facet joint first and disc.
4. To replace both is not enough but you need to study first the stresses on this facet joint in relation to above and below facets.

5. To restore motion at this level you have to study motion of this facet in relation to whole spine.
6. We need to determine the affected facets which need replacement.
7. We need anew prothesis that can be shaped like the specified facet that you want to replace like taking a print for the specified facet before design it the same as we do in shaping of replaced teeth or computerized cranioplasty At last I know to prove this theory we need alot of researches and bioengineering But i consider it as a starting point may change our philosophy in management of spine problems in the future Waiting for your questions and comments to answer it You can Wait for me to publish all about this theory in next issues of this journal.

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