

A PHYSIOTHERAPIST in Japan

Tokyo has always been one of those “once in a lifetime” places to visit. Sushi wouldn’t give reason to visit Tokyo, but a person who comes from a town of 3500 inhabitants, where 2 unrecognised persons walking on a quiet village road would be sensational, might wonder what a rush hour in a town of 38 million is like? This might be found out for example when taking a bullet train to Mt. Fuji in the world’s busiest railway station in Shinjuku or crossing a street in the world’s busiest crossing in Shibuya. A visitor might also visit the Tokyo’s electric town of Akihabara and see what will be sold in Europe next year or catch a gig by Dj Kawasaki with soulful house music. If everything feels waste of money, one can choose spending the last day in a crying hotel, where you can listen to melancholic music, watch sad movies and get depressed in peace without fear of somebody coming and cheering you up. In other words, this is Tokyo.



Still, after the location for the 2015 KTAI Symposium was announced, I decided not to go, and that’s only because of money. It just didn’t feel reasonable to sit 10 hours in a plane and spend over 1000 € just to hear somebody’s talks about a piece of tape, furthermore in the middle of the night (considering time difference). I saw the symposium programme one Monday morning in the Spring, right after fixing the operation time for a surgery for my chronically painful and tight hamstring muscles. The very first subject which I caught in a programme after the Dr Kase’s opening words, was “Are your hamstrings really tight?” If I need surgery because of tightness of the muscle, I assume I’m filling the “really” criteria. After thinking 3 seconds, I knew the answer: Tokyo. I was sold out by the word “really”. Without it, attending would have been questionable. Sometimes small things matter.

This time a usual two day programme was spread into three days, which was good for those who came from far and were suffering from jet lag. The participant candidates were encouraged to join the event by extra free social dinner, trip and a hotel night. Perhaps it worked, since the room was filled with a pretty good number of people, from 28 different countries. The Symposium was started untypically with a minute silence for terrorist attacks in Paris and Mali.

After opening words, Kenzo Kase started with a review of theory of Kinesio Taping and especially Relationship of Kinesio Taping to Tissue Healing. He invented Kinesio Taping almost 40 years ago for pain and chiropractic needs. In the beginning the results caused wondering among some people and some regarded it as a magic tape, but Kase told he is not a magic man. Instead, the tape works in a physiologic way aiming at decrease in pain, increase in circulation, normalization of muscle function and correction of joints. After beginning it was also found the tape has impact on circulatory system and nowadays Kinesio Taping is used to promote tissue healing after operations. During last 15 years there has been increasing interest into superficial tissues. Kase highlighted the role of liquids and structures as a continuum, also in dynamic manner. He told tissues need space, movement and cooling and talked about negative effects of heat on proteins and the role of circulation in tissue repair. Nowadays it is possible to monitor microcirculation by a capillary scope (Kekkan Bijin). In normal situation the capillary vein is thin, long and smooth which can be evaluated with the scope.

There were plenty of workshops to choose from, but unfortunately it was possible to pick only two of them. Still I changed the original plan (hamstrings) into manual direction test, because I was curious to see the use of diagnostic ultrasound system for that and the second workshop contained the same kind of ideas that could be used for hamstrings (abdomen, hip flexors and quadriceps may need taping to correct hamstring issues).

The workshop of The Kinesio Taping Manual Tissue Direction Test was run by Masahiro Takakura, who dealt with things that are needed when planning the taping, especially testing the direction manually and

practical use of tape for that. Also a dynamic test with motion of joint was demonstrated and practiced in pairs. Takakura used a diagnostic ultrasound system to show how movement of skin and pressure with ultrasound probe affects the fascias under the skin, also in deep part of the calf muscle. In this demonstration he injected fluid into the place where fascia was less mobile and separated it to form different fascia layers.

Australian Thuy Bridges had a workshop about Kinesio Taping for Low Back & Pelvis Girdle Pain: Assessments and Application. The workshop was carried out with two randomly picked participants who were suffering from low back pain. After a few questions and short examination, the target of the taping was being tried to find out.



That was done especially by using the test of asymmetric straight leg raise (ASLR), where the patient was lying on the back and lifted a straight leg trying to feel possible differences in heaviness of the legs. With the first demo patient, the problems were found in the neck and shoulder, which were taped. Consequently the painless range of motion became considerably bigger. With the second patient the functional test which caused pain, was clearly better after taping the knee with loosening the outer knee (tensor fascia latae) and activating the inner knee (vastus medialis). After that, squatting was more pain free and the alignment more straight.



SECOND DAY

Second day was kicked off by a presentation of Professor Hans-Michael Klein, who works as a cardiac surgeon at the University Hospital of Düsseldorf. The subject was Kinesio Taping for Post-Operative Pain & Wound Management in Cardiac Surgery. In thoracotomy the wound is not very long, but to create enough space, the wound has to be opened more wide. This causes e.g. rib fractures, injuries to the intercostal nerves as well as soft tissue injuries with hematoma.

25 – 60% suffer from post thoracotomy pain. With more than 50% of them pain is moderate or severe. According to Klein, postoperative pain after cardiac surgery is undertreated. This increases oxygen needs of the heart and makes breathing more difficult resulting in decreased oxygen supply. In the study consisting 50 participants who had undergone median sternotomy,

pain was about half smaller in the Kinesio Taping group compared to non-taped group (1,8 vs. 3,9). Three in the taped group felt only little pain but none in non-taped group. In taped group nobody felt severe pain, but 6 in non-taped group. Everybody but one felt breathing normal in taped group, but all in the non-taped group felt deteriorated breathing. Also medication (parasetamol) was less used in the taped group. In the first postoperative day withdraw of the tape revealed white lines under the tape strips, surrounded by darker hematoma area. Two new studies are starting about the use of Kinesio Taping after cardiac surgery. Klein hoped getting sterile Kinesio Tapes for postoperative cases. He also wishes standardization of taping, more research and motivation to use Kinesio Tape.

Michela Colombo & Sara Pelsoni from Italy studied The Effect of Kinesio Taping in Hemiplegic Patients with Spasticity. The research was participated with 20 persons. Half of them were taped with EDF (Epidermis-Dermis-Fascia) technique, which is more superficial than standard one. Non-taped group was treated with mobilization of the upper extremity. Range of motion of the elbow, wrist and the metacarpophalangeal joints were measured in relaxed and maximally stretched position. Assessment period was 4 days. After the study period the increase in range of motion in taped group was statistically significant. The effect was biggest during first two days. There was also less rigidity.

Brazilian Luiz Henrique Lima de Mattos had a presentation about the subject The Use of Equine Kinesio Taping to Manage Swelling Following Arthroscopic Surgery. In this study 12 horses were divided into test group and non-taped



group. Lymph taping was set 12h after the patellofemoral surgery. The swelling reduced by Kinesio Taping was statistically significant. In taped group the initial average perimeter was 58,78 and when the tape was removed at 72h postoperatively, the figure was 58,38. In the non-taped groups figures were 61,5 and 64. Heat camera didn't show differences between the groups.

Effect of Kinesio Tape for Functional Performance in ACL Reconstructed Athletes was studied by Gül Baltacı & Gulcan Harput. The Turkish mentioned 64% of ACL reconstructed athletes return to sports, from which 90% without remarkable problems. When there should be a return to normal activity after 6 months, kinesiophobia may cause return to sport difficult. The aim in the study was to investigate the effect of Kinesio Taping on functional performance among 15 participants.

The tests included star excursion balance test (SEBT), one leg hop test, vertical jump test and isokinetic strength tests for hamstrings and quadriceps. Measurements were done with Kinesio Tape and after one week without tape. There were significant differences in balance test and one leg hopping test between the groups. Strength tests and vertical jump test didn't differ significantly.

Razie Joghatein Alibazi from Iran presented the study: Effect of Kinesio Taping on Shoulder Impingement Syndrome. The taping group (10) was treated with patient education, taping and exercise while the other group only with patient education and exercise. The same protocol of taping was applied during three weeks with one interval week. Ultrasound image of subacromial space, VAS and range of motion didn't show big differences between the groups. In both groups the results were better, but there was more satisfaction in Kinesio Taping group. The limitation of study might be short period and standard taping technique.



Katie Lyman had a study with Kinesio Taping for Low Cost Intervention for Quadriceps Muscle Recruitment with Exercise Counter Measures. Astronauts have an increased risk for a reduction of muscle mass, strength and endurance because of long lasting space flights in a gravity free environment. They often suffer from back pain, which is tried to be controlled by pre and post exercises as well as exercises during space flights. The most typical exercise is squatting. Still, this causes back pain, which may result from special back train device and extra weight that has to be loaded in weightless air. NASA is looking for methods that could be easily carried out in space. The purpose of the study was to analyze biomechanical and EMG data with healthy participants performing squat exercises with Kinesio Tape. The hypothesis was the increased activation of the Quadriceps decreases the work done by back muscles. EMG was measured at rectus femoris, VMO and quadratus lumborum. 28 participants were divided into back and leg groups. This research is ongoing, but has yielded promising results so far.

Keiji Mori had a presentation about Pennate Muscle of Kinesio Taping. In this the pennate form of muscles where taped with the direction of the muscle fibres. Pennate muscles have a long aponeurosis and 80% of them are situated in the lower extremities. In demonstration pictures the longitudinal (aponeurosis) direction was taped together with oblique (pennate) direction.

Change of Posture by Kinesio Taping Application Using Posture Analysis Software: Digitized Trial was presented by Masaaki Tanemura. The posture was analyzed using plumb line and markers around the body. Tanemura concluded the posture analysis is suitable additional tool that could be used together with other tests like muscle and screening tests when planning and evaluating Kinesio Taping.

The keynote speaker of the second day was French plastic and hand surgeon, Dr. Jean-Claude Guimberteau, who has been researching body's interconnected system of loose connective tissue that allows fascial planes to move on each other, for over 30 years. His presentation: Attempt to Explain the Efficiency of Taping Through Endoscopic Observations was gone through with a video. With endoscopy he demonstrated nature and function of the body as a continuum, although layers can be separated. As for Kinesio Taping, it is meaningful that the effect to the superficial tissues



is clear and the deeper part can be affected through the superficial tissue. Mechanically the effect of Kinesio Taping for superficial tissue is remarkable. The lines at the surface of skin are dynamic and their direction, form and number could be changed with Kinesio Taping. Effects were found also outside of the tape, but lasted only 1-2 min after removal of tape. The presentation didn't give answer to the question how Kinesio Tape works, but helped to understand the body as a three dimensional and dynamic continuum which can be affected by Kinesio Tape. For example in motion the connective tissue fibres stretch, separate and slide. There is also movement of the skin in normal motion. Advances in endoscopic technology have opened new views to observe tissues. Guimberteau has made 6 DVDs about endoscopic examination for sale.

Gustavo Adolfo Mendoza Orta from Mexico made a study about Measurement of Kinesio Taping effects Using fMRI, where he mapped cerebral areas which was triggered by Kinesio Taping with functional MRI. The patient was healthy individual who was imaged in four settings: under normal circumstances, after causing pain on hand, with Kinesio Taping in normal circumstances and with pain induced stimulation on the hand in addition to EDF Kinesio Taping on forearm. In functional MRI the application of Kinesio Taping increased the cortical activation area in the brain immediately. Effect was also seen in contra lateral side and in cerebellum.

In the study of The Effect of Kinesio Taping on Non-Specific Low Back Pain, Thiago Vilela Lemos compared two taping techniques (paraspinal activation and EDF with "jelly fish") with 36 patients suffering from nonspecific low back pain. They were randomly divided into two groups and were taped for three weeks twice a week. The tape was on two days with one day without tape. There was significant improvement of results in the jelly fish group as for pain, level of disability and quality of life. In the jelly fish group pain was cut half of the initial. There was no improvement among paraspinal activation group, where the erector spinae was taped from proximal to distal.



Leyla Eraslan worked in the area of epicondylitis with a subject Kinesio Taping Reduces Pain & Increases Function in Lateral Epicondylitis. She compared the effects of three different physiotherapy approaches on pain and functional level in patients with lateral epicondylitis. 45 patients were randomly divided into three equal groups. First group received TNS with cold pack, second group was treated with the same plus Kinesio Taping. Both were treated five times a week for three weeks. The third group received cold pack and ESWT two times a week for five times. Home exercise program was included in all groups. VAS, resisted muscle test and evaluation scale was used in evaluation. There was no big difference between groups. Pain was decreased and functionality improved in all groups. As for pain and function, Kinesio Taping showed better results than the other groups.



Tomoki Okane studied The Effectiveness of Kinesio Taping as a Physical Stimulus on Tight & Loose Skin. He applied three different width of Kinesio Tape on shoulder of 27 healthy participants. Skin movement was estimated and Deltoid muscle strength was tested before and after each application. Strength with different width of tape and flexibility to skin was analyzed. As a result, for tight skin 5cm width Kinesio Tape can be effective while 1,25 or 2,5cm width Kinesio Tape can be effective for loose skin.

A Norwegian physiotherapist Frank Tore Jacobsen went through the subject Kinesio Taping & Its Effects Beneath the Skin. He used both basic physics and practical examples to describe how different taping techniques affect the skin and tissues. With different width of tape, stretching of the tape and skin the effects are different as for convolutions and recoil.

Francisco Garcia-Muro San Jose has worked long time with research of Kinesio Taping. Nowadays Literature Review is more difficult to do because there are no similarity as for methodologies, philosophies, claims, choice and interpretation of evidence, reliability etc. He mentioned the subject is quantitatively rich in source material, but includes many studies which are bad in quality. The studies have been published in different languages which makes research more difficult to follow. For a long time Kinesio Taping was almost only studied by Kenzo Kase before some Asian and European countries participated in research. Around 2006 there was a big increase in research and after that more studies have been published yearly.

DAY THREE

Dr Kenzo Kase had EDF workshop, where he also talked about his treatment methods outside Kinesio Taping. He demonstrated a few tools including hammer and electric equipment how to stimulate bones etc. He has also published a book "Dr Kase Therapy".

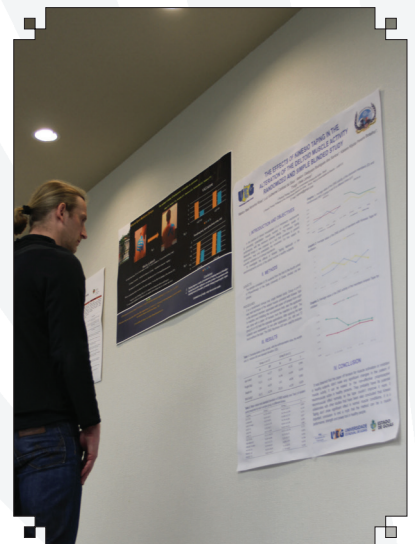
Some of the case studies and posters that were presented:

- Dario Maria Villa (Italy) *Pilot Study of Analysis, Evaluation and Comparison Training with RMET (Respiratory Muscle Endurance Training) in Conjunction with the Use of Kinesio Taping® Method*
- Ron Garcia (US/Nevada) *The Effects of Patellofemoral Taping on Patellofemoral Joint Alignment and Contact Area*
- Ahmed Samir Abdelfattah (Egypt) *Effect of Kinesio Tape in Myofascial Pain Syndrome: A Randomized Controlled Trial*
- Nihan Ozunlu Pekyavas (Turkey) *Effects of EDF Taping on Wound Healing and Edema Control After Castration Surgery in Stallions of Equine*
- Christina Lujan (US/New Mexico) *Premature Atrial Contractions: Clinical Case Report*
- Sylvia Shih-Yung Chen (Taiwan) *A Case Study of the Use of Kinesio Taping to Improve Ambulation Performance of a Periventricular Leukomalacia (PVL) Child*
- Dalibor Kiseljak (Croatia) *Kinesio Taping in the Rehabilitation of Adolescent Idiopathic Scoliosis – Effects of a Two-Month Treatment Program*
- Judith Macias-Harris (US/Arizona) *EDF Taping for Cranial Nerve (V3) on The Mandible*



There were plenty of posters hanging on the wall, including:

- Kinesio Taping® Influence on Balance of Subjects Without Functional Ankle Instability
- Applied Taping for Pain Relief in Patients With Primary Lymphedema in Legs
- Kinesio Tape Decreases Pain Levels in Femoral Lengthening Patients with External Fixator
- Effects of the Application of Kinesio Taping on Ankle Range of Motion and Calf and Hamstring Pain in the Non-Professional Football Player
- Evaluation of Kinesio Taping® Associated With the Habitual Treatment for Low Back Pain in Young Soccer Players
- Equine Lymphoedema
- Safety and tolerability of Kinesio® Taping in patients with arm lymphoedema: medical device clinical study.
- Skin Reactions After Using Kinesio® Tex Tape. A Pilot Study
- Is quadriceps Kinesio® Taping effective on aerobic and anaerobic performance of healthy subjects? A randomized controlled study
- Kinesio Taping® influence on pain, a systematic review
- Effects of the Space Correction Kinesio Taping Method® on the Patellofemoral Joint Measured by Diagnostic Ultrasound
- Subacromial Impingement Syndrome and Kinesio Taping Method: glenohumeral and scapulothoracic approach in a group of professional male volleyball players. Randomized pilot trial.
- The effects of Kinesio® Taping Methods on the Subacromial Space
- The XY Method for Jaw Stability using Kinesio® Tape
- Kinesio taping effects applied with different tensions and directions: A controlled randomized blinded, clinical trial



- Improved Foot Alignment through use of Elastic Therapeutic Tape (ETT) in a Neonate with Positional Calcaneovalgus Deformity
- Core stabilization Kinesio Taping® Method
- Dysmenorrhea treated with Kinesio® Tape. A pilot study.
- Kinesio® Taping applied to children with equinus foot. Study about the modification of plantar support in immediate and medium term
- Our method of taping of impingement of shoulder in sportsmen
- The effects of Kinesio Taping in the alteration of the deltoid muscle activity. Randomized and simple blinded study.
- Student Instruction for Use of Epidermal, Dermal, Fascial Kinesio® Taping Techniques

That's about it. Lots of data about Kinesio Taping, giving new information, confirmation to previously suggested things, but also creating new questions to ask. In other words, the science has yet again taken a little step forward. There is no need to fear the next symposium will be cancelled, at least because of having already enough scientific knowledge. Good news for those who are going to attend the next the symposium in Hawaii.

Overall, a great symposium and a great town. The crying hotel was not needed.

Tokyo

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MEMORIES FROM THE SYMPOSIUM

Great experience to meet Kinesio experts from all over the world, and precious opportunity to share different Kinesio possibilities in research. To be inspired by new ideas, to discuss different point of views, and to be encouraged by excellent presentations. That's the charming part of knowledge, as you know more, it drives you eager to dig deeper to discover more.

- Sylvia Shih-Yung Chen



I met the legends, Dr. Kase and Dr. Guimberteau. I know a lot of professors and colleagues who specialize in Kinesio Tape worldwide because of this symposium. I had a great memory with Dr. Kase, when I got my picture taken with him he noted that I was in a lot of pictures! I know he was kidding around.

- Ahmed Samir Abdelfattah