

CADAVERS DON'T LIE

A REFLEXOLOGY STUDY CADAVER LAB VERIFIES REFLEX LOCATIONS

By
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Summer of 2016



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A Special Thanks

To **Michigan State University**

For Recognizing Reflexology as a Science
Worthy of 3
National Institutes of Health (NIH)
Grants to Study the
Effects of
Reflexology on Women with
Breast Cancer
Going Through Chemotherapy.

NIH - \$3.1 million 2005-2010
\$2.65 million 2011-2016
Grant #3 starting in 2016

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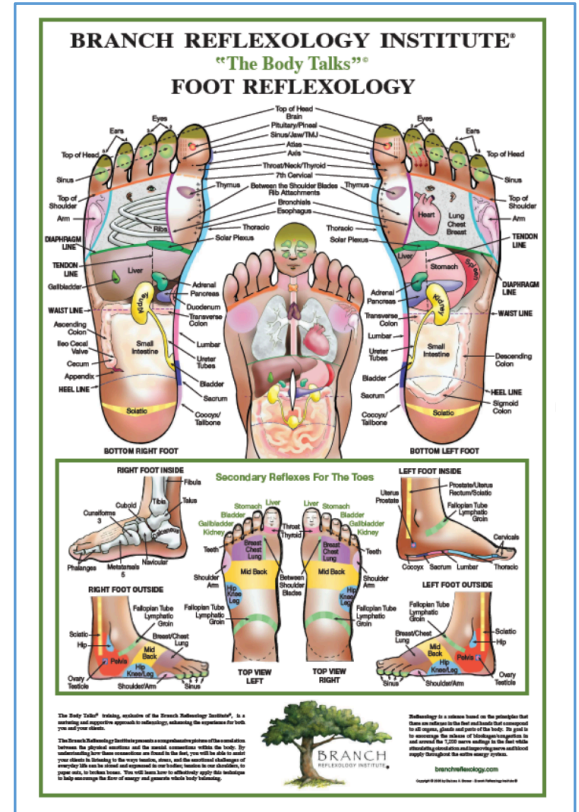
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REFLEXOLOGY DEFINITION

Reflexology is a science based on the principle that there are reflexes in the hands and feet that correspond to each organ, gland, or part of the body. Its goal is to encourage the release of blockages in and around the 7,000 plus nerve endings in the feet and hands while stimulating circulation and increasing nerve and blood supply throughout the body's entire energy system.

CO-AUTHORS OF THIS STUDY:

Barbara A. Brower

Nationally Board Certified Reflexologist (ARCB) and founder of Branch Reflexology Institute, a Licensed School in the State of Michigan. Barbara selected the 9-steps and the frequency after being given the parameters of the study from Gwen Wyatt, PhD, for the Michigan State University (MSU) grant to study the effects of Reflexology on breast cancer patients going through chemotherapy. She traveled by invitation to Washington, D.C. to present her role in the reflexology study (2008), and speaks regularly at nursing conferences on why she chose the 9-steps and why she feels they were beneficial. Barbara, a nationally respected pioneer in reflexology, has been in a full-time practice since 1981.

Rebecca Sundeen

Nationally Board Certified Reflexologist (ARCB) is the Lead Trainer for Branch Reflexology Institute. Rebecca trains extensively with Barbara, traveling off-site as requested, and training on-site at Branch Reflexology Institute. Her passion and dedication to expanding awareness of the benefits of reflexology is unparalleled. Rebecca has been in a full-time practice since 2005.

(ARCB)– American Reflexology Certification Board

INTRODUCTION

- ❖ We were approved to visit the cadaver lab in 2013 and again in 2015, because of our involvement with Michigan State University's two Reflexology Grant(s) funded by the National Institutes of Health, NIH. Barbara A. Brower developed the 9-step protocol after being given the parameters of the study by Dr. Gwen Wyatt. Barbara was given the title of Lead Reflexologist. She trained and supervised all the reflexologists participating in the study with the 9-step protocol, doing 6 month refreshers with all the reflexologists for the full 5 years of the study. She also developed the placebo and trained those steps to a Lead Trainer in that capacity. This grant evolved from Dr. Gwen Wyatts first hand experience with Barbara and reflexology facilitating the healing of her broken leg (tibia). It had been several months and Dr. Wyatts doctor had said it was time for surgery as the leg was not mending. She requested one more month and at the doctors dismay it was given. We met, I heard her dilemma, I guaranteed it would work and the rest is history. (Please remember I was 22 years in a full time practice when I guaranteed it would work.) You can read the full story at branchreflexology.com) Rebecca G. Sundeen worked in the field with the breast cancer patients, traveling to centers and homes of patients that were active in the study. After 3 years into the second grant, and over 12 years of involvement with the Pilot Study and the two grants, Barbara passed the Lead Reflexologist position to Rebecca Sundeen. The two grants total \$5.65 million. These were robust studies as they included conventional care, reflexology sessions and placebo. Grant #3 is beginning in early 2016.
- ❖ Dr. William Falls, Ph.D., is the Associate Dean in the College of Osteopathic Medicine, and Professor of Anatomy at Michigan State University. He teaches gross anatomy in the cadaver lab. Dr. Falls has more than 37 years experience in his field. He uses reflexology on a regular basis and values the benefits for both physical and emotional well-being.
- ❖ Both authors (Barbara and Rebecca) would like to extend our sincere thanks to Dr. Falls for getting the approval for us to observe cadavers in the Michigan State University lab and also for volunteering his time and expertise with us as we had many questions. All of the physical observations, whether they were in the feet or in the body were confirmed by Dr. Falls.

Dr. William Falls, Associate Dean College of Osteopathic Medicine,
and Professor of Anatomy
Michigan State University

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VISITING THE CADAVER LAB:

- ❖ Upon entering the cadaver lab with Dr. Falls, you see rows of cadavers, each visit there were 60-75 in all, in individual trays and covered. The temperature is cool and the lights are bright, and there's a strong wafting of formaldehyde in the air. We were both handed gloves knowing we would be touching and moving body parts of the cadavers. The majority of the cadavers were laid posterior in their tray with a 6-inch lip on the tub. Some cadavers were laid anterior, because of this were not able to view the dorsal side for examining the feet. Each examination began as we viewed the feet and ankle area first, then the body was fully exposed for confirmation. Thus began our adventure into what cadavers have to say.

INTENTION:

Research has shown that reflexology is beneficial for women with breast cancer undergoing chemotherapy.

The intention of our research in the cadaver lab, is to confirm visual congestion shown on the feet with physical congestion in the body, and have a means of correlating them both.

This research in the cadaver lab gives more evidence for further study into the correlation of congestion in the body, and reflexology as a physical visual disclosure of where in the body we hold congestion as well as using reflexology to support homeostasis.

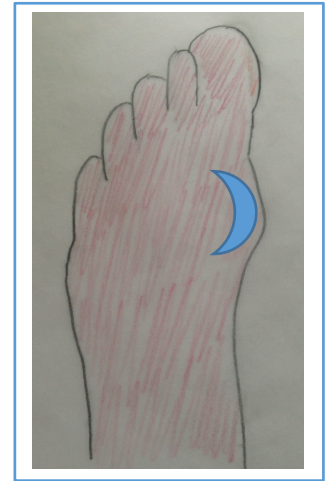
As practitioners in the field of Reflexology, we are excited with the findings of this research to possibly further more studies.

BUNION – The common name for the protrusion at the base of the big toe.

Metatarsophalangeal Joint, (MTP Joint)

1. Visual Congestion Found:

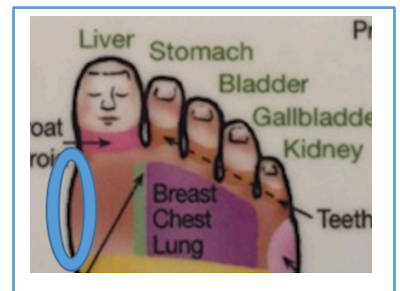
Upon assessing the left and right foot we observed the right foot showing a marked difference in the distal end of the first metatarsal and the proximal end of the first phalange or Metatarsophalangeal Joint, (MTP Joint) with a gross enlargement. Hallux Valgus (Bunion).



Plantar View – Right Foot

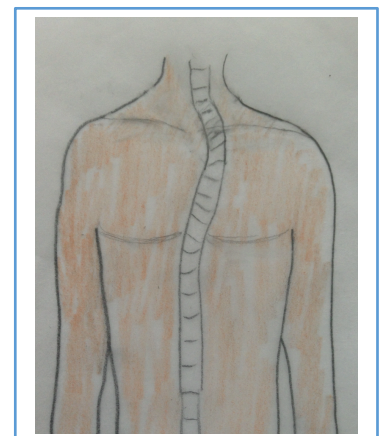
2. Chart Reflex Correlation:

The reflex area that correlates with the upper back, thoracic region (between the shoulder blades) is also the reflex area represented by the bunion.



3. Observation of the Physical Body

Large curvature in the spine in the upper back, thoracic region. Curvature correlates with the reflexology reflex of the upper back thoracic region.

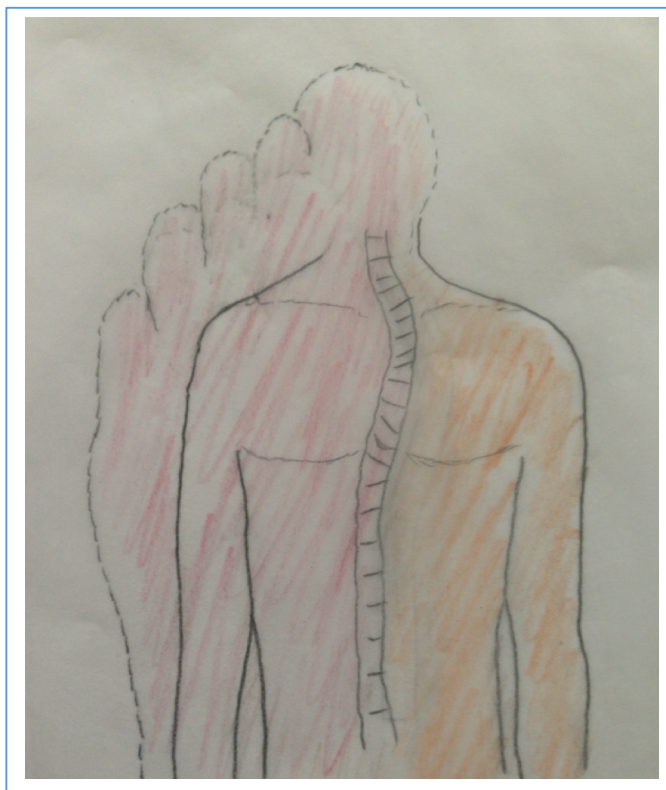


Anterior/Front of Body

4. Overlay Comparison

Two different cadavers were observed. Both spinal curvatures matched the protrusion of the bunion. One bunion was located on the left foot and the other cadaver had one on the right foot. In both cases the spinal curvature was following the protrusion of the bunion. This applies to a bunion presenting on one foot only.

Anterior/Front of Body



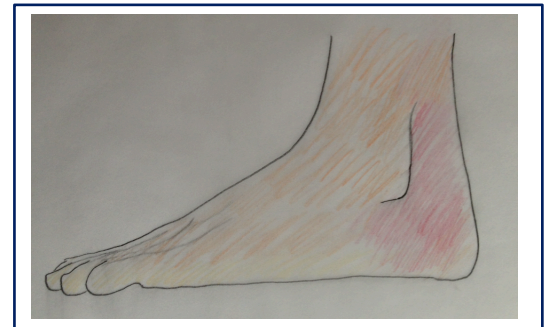
Considerations/Observations Pertaining to Reflexology:

It is very common for reflexologists to find congestion between the shoulder blade reflexes when chronic long term upper back tension is present. Reflexology can relieve a great deal of discomfort for the upper back/thoracic area however, it does not change bone formation. The bone formation is an indicator for long term congestion.

HIP – The region of the body around the joint between the femur and the pelvis.

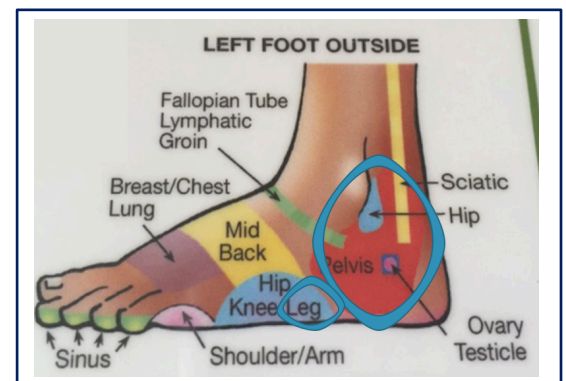
1. Visual Congestion Found:

Upon assessing the left and right foot we observed **only** the left foot showing fullness under and around the lateral malleolus.



2. Chart Reflex Correlation:

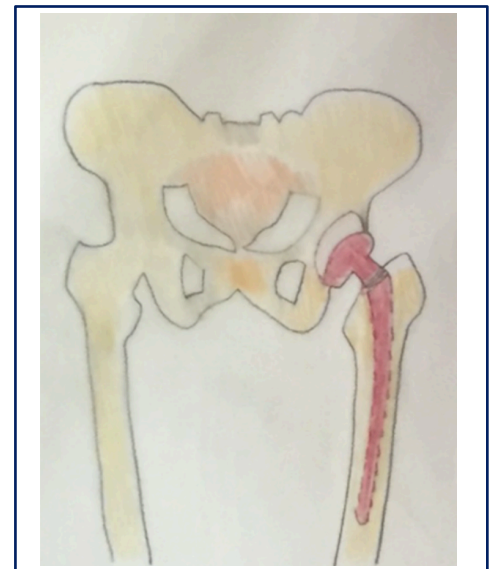
The reflex area that correlates with the hip specifically is located at the lateral lower heel area, posterior to the malleolus.



3. Observation of the Physical body:

Uncovering the cadaver revealed the Left hip replacement dissected out laying next to the cadaver.

Dr. Falls reinserted the hip replacement to show us how the replacement sets into the femur and into the hip joint for smooth rotation.



Hip continued

Page 2.

Considerations/Observations Pertaining to Reflexology:

Because charts are two dimensional and the body is three dimensional, the hip reflex would also show on the plantar view, at the head of the fifth metatarsal. (not shown) If both the plantar view and the dorsal hip/knee/leg reflex on the later edge is showing congestion, i.e., discomfort, puffiness, granular feeling in the reflex, it's been our experience that it has been more muscular or injury based tension.

When in reflexology we find more congestion i.e., puffiness or redness in addition to *firmness*; in the pelvis and hip specific reflex, (hip specific is located posterior to lateral malleolus) it's been our experience that it is more hip degenerative often times requiring a hip replacement; as was the case with this cadaver.

LEANING TOES – NECK CONGESTION

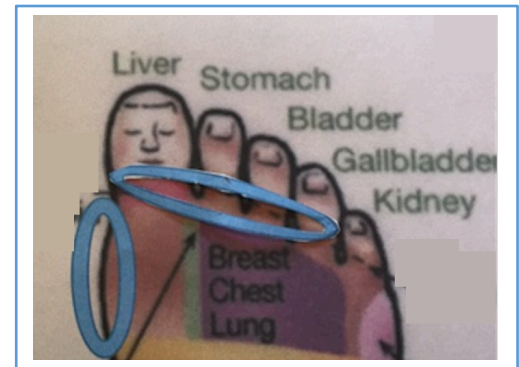
1. Visual Congestion Found:

Upon assessing the left and right foot we observed the same on both feet with extreme leaning toes and bunions on both feet.



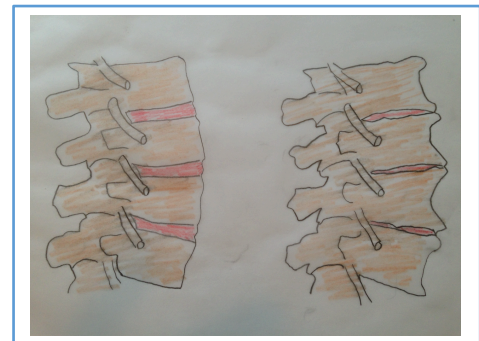
2. Chart Reflex Correlation:

The reflex area that correlates with the neck is the proximal and distal end of the Great Toe (the Great Toe only has 2 bones, proximal and distal) and the proximal, middle and distal of the second, third, fourth and fifth toes. (each of the smaller toes has three bones).



3. Observations of the Physical Body:

Upon uncovering the cadaver we observed the abnormal look of the cervical vertebrae. Dr. Falls confirmed the degenerative discs in the cervical area.



Considerations and Observations Pertaining to Reflexology:

It is common for reflexologists to find congestion in the phalanges (toes), in particular the Great Toe, and mostly in the proximal phalanges, as many of us carry tension in our neck. It has been our experience that toes that curl, i.e., claw toes, or tenderness in the proximal phalanges reflexes are more about tension in the neck, where leaning toes are more about degenerative discs in the neck, referring to and including the axis (C-2) and the 7th cervical (C-7) vertebra.

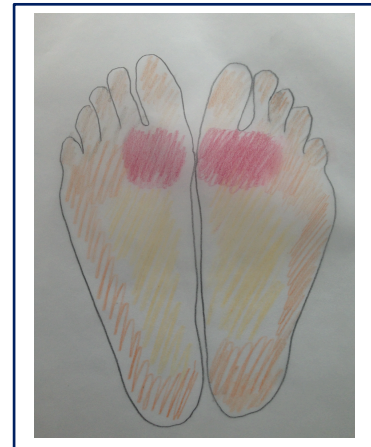
HEART – A. Congestive Heart Failure

B. Heart Attack

A. Congestive Heart Failure – A condition in which the heart is unable to maintain an adequate circulation of blood in the bodily tissues or to pump out the venous blood returned to it by the veins.

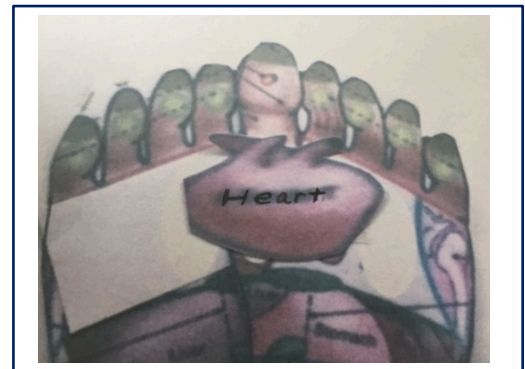
1. Visual Congestion Found:

Upon assessing the left and right foot plantar view we observed the fullness and firmness (callus) mostly in the left foot covering proximal metatarsal 1, 2 and 3. On the right foot plantar view the area affected was proximal metatarsals 1 and 2.



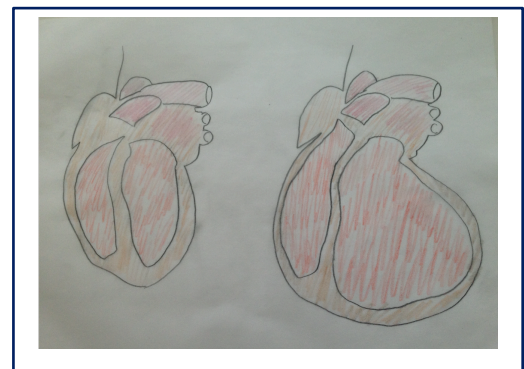
2. Chart Reflex Correlation:

The reflex area that correlates with the heart reflex is mainly located on the left foot. When a reflex is stressed, as in congestive heart failure the reflex is also found on the right foot as the reflex crossed the midline of the body showing congestion.



3. Observation of the Physical Body:

Uncovering the cadaver revealed that the heart had been dissected out. Physical viewing was not available to us. Dr. Falls read the card on the cadaver and it read congestive heart failure. He also mentioned that when a person has congestive heart failure the heart can increase in size up to one third its normal size.

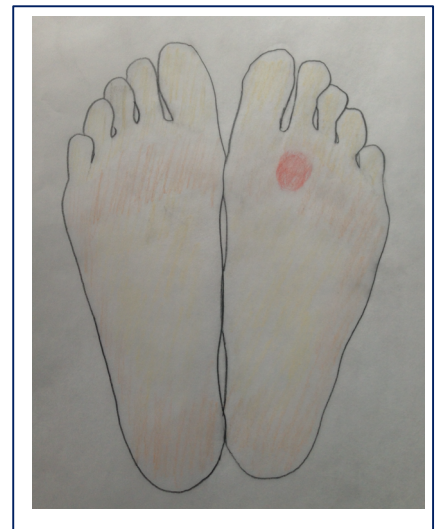


* While at the cadaver lab in 1986, Barb saw a cadaver with the same congestion showing on both feet and was able to observe the enlarged heart in the cadaver.

B. Heart Attack -- A sudden and sometimes fatal occurrence of coronary thrombosis, typically resulting in the death of part of a heart muscle.

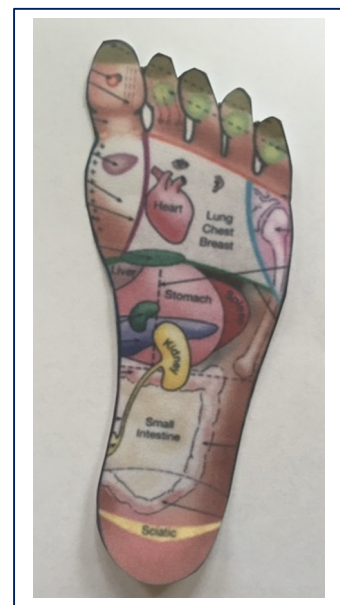
1. Visual Congestion Found:

After viewing over 75 cadavers, we asked if there were any new bodies we could observe. Dr. Falls took us into a room where as it was explained to us the cadavers were *freshly* embalmed. In this case, the body was not yet dissected. The age of the cadaver was that of a 60 year old male. The student was just beginning dissection. We were able to see both feet propped up on the 6 inch lip of the tub with a perfect plantar view. The cadavers feet were in remarkable shape with very little visual congestion showing, with the exception of his heart reflex. It was a puffy circle right over the heart reflex. Barb exclaimed, "oh, he passed from a heart attack didn't he..." Dr. Falls explained that these cadavers were so *new* that their cards were not yet attached. He went to the office and asked them to look up the cadavers number and let us know what he died from. We continued to view other cadavers, after some time had passed a lady appeared in the room to tell Dr. Falls that this man died of a "myocardial, well, a heart attack." To Dr. Falls surprise he asked how we knew that and found our evidence compelling.



2. Chart Reflex Correlation:

The reflex area that correlates with the heart is primarily on the left foot plantar view spanning the second and third phalanges.



Considerations/Observations Pertaining to Reflexology:

Because charts are two dimensional and the body is three dimensional there are a number of other reflexes in this area, i.e., ribs, chest cavity, including lungs, to be considered. As a trained reflexologist we would consider all reflexes that could be in this location. If a client told us they knew of heart challenges, i.e., irregular heart beat, A-fib, congestive heart failure, we would spend more time in the reflex bringing circulation and nerve and blood supply into the reflex for maximum support.

Because we were in the cadaver lab we were able to match the physical manifestation in the body with the congestion in the reflex. As in the case with many living clients we often see a thickening of the tissue in the chest, lung, heart reflex encompassing the ball of the foot; and in congestive heart failure one of the most obvious areas affected is the clients lungs as they often struggle to get a deep breath or get winded very easily and have to rest. So in the case of the congestive heart failure the tissue is thicker, callused and/or hardened, and because the heart is *stressed* it grows up to one third larger, appearing on the right foot as the heart reflex crosses the midline of the body and shows on the right foot in zones one and two. Following the physical congestion shown in the body.

As for the cadaver with the puffiness over the heart reflex being so clearly visible, it would have been interesting to note if the puffiness in the heart reflex area was puffy before the heart attack occurred or did the reflex change and display the 'puff' after the heart attack occurred.

1. Visual Congestion Found:

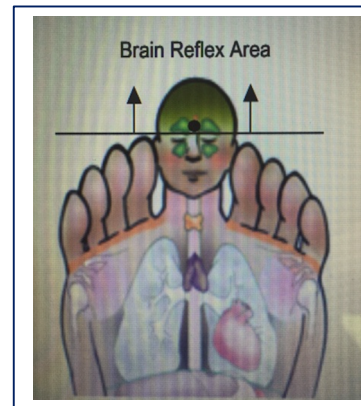
Upon assessing the left and right foot we observed **only** the left foot showing fullness in the distal phalange of the Great Toe.



2. Chart Reflex Correlation:

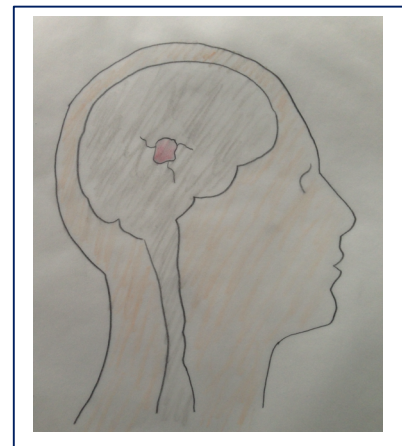
The reflex area that correlates with the brain is the Great Toe. The brain is the only reflex that crosses over to the opposite side of the body. The left Great Toe then, would represent the right brain.

Note: The brain reflex also extends to include the whole distal end of the first phalange from the plantar view; taking into consideration that this is also part of the reflex for the brain stem.



3. Observation of the physical body:

The uncovering of the body showed cross section of the left brain removed, so visual assessment could be viewed of the right brain, where a tumor was visible.



Considerations and Observations Pertaining to Reflexology:

When viewing physical congestion on the feet we are observing an imbalance between the physical body and seeing a relationship correlation with reflexes in the feet. As a trained reflexologist we would never assume a condition with these variables. Because we were able to see into the cadavers we were able to confirm the physical manifestation to the congestion in the reflex.

Conclusion:

It was a wonderful opportunity to be able to look inside the body for confirmations of the reflexology chart locations that many charts agree upon, matching with the cadaver physical body. As Reflexologists we work on the reflexes finding congestion, and in this case at the cadaver lab experience, seeing what the physical body confirms is validating to our field.

Validating in two ways, 1) that the physical body is matching up to chart locations and 2) the congestion we observed is matching up to the foot as our torso.

The average age of the cadavers were around mid-eighties, with the exception of our *heart attack* Cadaver, in his mid 60's, who was a *freshly* embalmed cadaver with full flesh for us to see the heart reflex standing out.

Some of our cadaver confirmations were extreme circumstances/imbbalances, i.e., heart attack, brain tumor and congestive heart failure. (This is what they died from, not what they lived with.) Other confirmations were common everyday imbalances we see often, either way our findings based on our experiences at the cadaver lab, proved a correlation between a reflex and a physical part of the body.

The cadaver lab visits with Dr. Falls gave us a great opportunity to not only find areas of congestion that applied to our field, but also to have Dr. Falls confirm our findings. To the point that he showed great interest in cadavers feet from a new perspective himself.

Even though we were able to view over 150 cadavers (between 3 visits) many were not good specimens for reflexology reflexes due to dissection.

Just like our clients, these cadavers are our teachers, we wanted to see what they had to say. We now know that, Cadavers Don't Lie.