

Report back: Body Painting with Palpation Workshop – Anatomical Society of Southern Africa (ASSA) Conference, 2019. Includes participant comments.

Enhanced observation of the anatomy using the sense of touch and body painting.

ASSA workshop led by Mr Leonard Shapiro and supervised by Dr Geney Gunston and Prof Graham Louw.

Body painting with palpation - an effective and fun anatomy learning and revision practice.

Introduction

Two effective, art-based practices have been introduced into the Division of Clinical Anatomy and Biological Anthropology at the University of Cape Town (UCT), to augment the current anatomy study curriculum.

The first art-based practice is an enhanced observation method using **touch (haptics) and drawing** and the second is **body-painting with palpation** using brushes and 4 different colours of washable dye. Both practices crucially employ the *sense of touch* as an important sensory modality, specifically for enhanced observation of the 3D form of anatomical parts which results in their memorisation as a mental picture.

Our sense of touch is an extraordinarily powerful accumulator of tactile information about everyday three-dimensional objects. We use our sense of touch automatically and without giving it much thought, in the form of what Roberta Klatzky and Susan Ledermann call '[exploratory procedures](#)'. Yet, we seldom use our sense of touch *actively* in exploring and understanding objects when we wish to observe them more fully. Our eyes can only inform us of so much, and by combining sight *and* touch, we gather a great deal more information about the 3D form of an object.

At ASSA 2019, a 2.5-hour Body Painting with Palpation workshop was offered to participants and ten participants attended.

The workshop was interactive, and participants paired off and took turns to palpate each other's upper limbs, identify anatomical features beneath the skin and then mark these features on the surface of the skin using brushes and different coloured washable dyes. The idea was *not* to make 'art' or aesthetically pleasing marks, but rather to achieve the *closer observation* of the anatomy. The making of marks on the skin was merely to reinforce and record what was being observed with palpation.

The advantage of these dyes is that they are transparent, which results in one layer of colour being visible through the next layer of colour. The implication is that anatomical features can be depicted relative to each other and at their various depths.

It is important for the student to *palpate* their fellow student's anatomical part under investigation (such as the upper limb), in order to observe with touch what is *under* their skin, and then mark down in colour what they have observed. It is also vital that the anatomical part is treated as a 3D object and that palpation and mark-making take place 'in the round' and not only on one surface of the limb. In this way, the spatial layout of the anatomical part is taken into account and observed in all of its three dimensions. The idea is to use palpation and mark-making as a means of exploration, discovery and learning.

There are a number of important benefits to observing the anatomy using body painting with palpation:

- Augmentation of current anatomy teaching practice and atlas study.
- Assists learning during and after studying a particular anatomical part of a dissected cadaver.
- Combination of cadaver dissection with body painting on a living person. A cadaver is much less pliable and less responsive than a living person; a living person is closer to what a patient would feel like.
- Makes the student aware of anatomical variation.
- Palpation of living body while body painting: relates to clinical skills and clinical patient etiquette.
- Observing and learning the 3D form of the anatomy and relationship of anatomical features.
- Improved spatial awareness.
- Knowledge retention.
- Surgeons often draw on/mark the skin when planning an operation.
- It's fun!

In 2018, a paper *How Haptics and Drawing Enhance the Learning of Anatomy* written by Steve Reid, Graham Louw and Leonard Shapiro was published in Anatomical Sciences Education (ASE) journal. Here is a link to the paper: https://www.lateral leap.co.za/wp-content/uploads/2018/08/Reid_et_al-2018-Anatomical_Sciences_Education.pdf

For more information about these two observation methods in anatomy education, please write to Leonard Shapiro: leonard.shapiro@uct.ac.za

Acknowledgement

We acknowledge with gratitude the contribution of body donors to the UCT Division of Clinical Anatomy and Biological Anthropology.

Workshop participant comments:

“Not all of us are exactly the same and we are not emulating the textbook...and there are certain variations. Another thing that was quite fun and was quite cool was getting an idea of the interaction between the tissues so when you are palpating in various positions, the structures present slightly differently. I think that is quite important”.

“By palpating and marking down what I felt, I got a better understanding of anatomical variation”.

“I felt that I wanted to draw from my mind’s knowledge...and then I forgot to feel...so you have to take a step back and remind yourself that you need to observe directly”.

“Understanding of anatomical variation through palpation of living individuals”.

“The students don’t have to come in with any knowledge because they are just going to come in and feel and observe or draw or paint what they feel so there is no pressure on the student to begin with. I think this would be really helpful to my students because there is not a lot of pressure to ‘get it right’...they are exploring after all”.

“Removes pressure from learning and ‘getting it right’. No right or wrong in drawing or body painting: touch and drawing/painting is a means for learning and discovery”.

“Also, we can join up *later* what we couldn’t actually feel of the arm...what we know from prior learning about the anatomy. I want my students to go by what they palpate and then *only later* fill in the gaps according to what they know (to be there)”.

“I felt that I wanted to draw from my mind’s knowledge...and then I forgot to feel...so you have to take a step back and remind yourself that you need to observe directly”.

“Augments text-book learning”.

“Students should use their own body as a resource. I come from a veterinary field and students have to go out and palpate a horse or cow. With medical students it is just so easy...they can just go and palpate their own bodies”.

“Use of each other’s body’s as an anatomy study resource”.

“We don’t go into the anatomy in depth because X is a pharmacist and I am a nurse....so there are certain muscles that are important to us. So, much of the anatomy is not important for me to know. We need to know where to inject. With this body painting, it showed that if you change your position of your body, you can see how the muscle changes once the muscle shifts relative to the body painting...because now I can see how the muscle position changes and that will also have an influence on where to inject the patient. So, I really appreciated this because I am not good with drawings, so I learned a lot...and it was really fun. If you change your position, the muscle moves and you can see this as the muscles move relative to the painting in the skin”.

“So, this can now become a clinical skills workshop”.

“Body painting can become a clinical skills workshop”.

“The medical students said that this etiquette or privilege of being allowed to touch a person....and how to naturally approach someone in a clinical way”.

“Students being given ‘permission’ to touch. The ‘how to naturally approach somebody in a clinical way’ ”

“Beginning of ‘learning to touch’ a patient. Privilege of touching. Practice of touching”.

“This is direct, hands-on observation of the anatomy”.

“Observation of interaction between tissues”.

“Students being given ‘permission’ because it opens up something. We do model building in 2nd and third year. Students report that they didn’t think they have any artistic abilities at all but once they begin working with the clay, they suddenly discover something about themselves that they never knew. When they build a model with clay or paper mache, they realise they can do something that they never thought that they could do. I also noticed that E was concentrating as she was painting H arms and it wasn’t about transposing Netter onto H’s arm, but about actually feeling what is there....I could see the focus”.

“I could see the artwork that C did on me and then I realised that I need to brush up on my anatomy (laughter). This was very nice and I have some great Ideas for my students. I mainly teach the clinical associates and they only have 6 months but this will be an excellent way to do regional anatomy.

This will be perfect for my students to do at the beginning and then again at the end. Can compare what students know in the beginning of their study of an anatomical part and then at the end of the to study to compare the difference”.

“With 3rd year, I asked that there are at least 2 male students in a group of 9 or 10 students. Then they cover themselves with Gladwrap and then with khaki they draw on the surface of the Gladwrap. With this (body painting) technique this is perfect for palpation and exploration on a human”.

“Good to see everyone’s approach (with the body painting) which is different. You can apply your own teaching agenda using this method”.

“During the workshops at UCT, you do ask us to go around and look at what they are doing and then you ask the student to explain why they drew what they did...this ensures that what is going on *in the mind of the student*, becomes known to the other students”.

“We learned from each other about (our respective) arms. It is helpful to have each other’s arms to palpate in order to discover what is there”.

“She knew her anatomy better than I did. So she offered me advise about where to feel. Could be helpful to pair someone very experienced and someone less experienced to work together”.

“Could be useful to compare what the students knew initially and then what they have learned”.

“At first we wanted to look at Google, but then we saw that this was too complicated and then we palpated to discover what is there”.

“She knew her anatomy much better than I do, so she could advise me. I know osteology well but not my muscles and tendons. So, it might be useful to design a class where someone is more experienced, and someone is less experienced, so the less experienced student can learn from the more experienced student”.

“The idea of no right or wrong can be quite liberating because I am free to put down what I am seeing and feeling and so it can’t be right or wrong...it’s my drawing. That is why I need to explain to you what my marks represent. There is no right or wrong...so it is quite liberating to represent what I am feeling and representing it as my drawing. That is why it is useful for a student to explain what their (drawing or painting) marks represent”.

“Great opportunity for post graduate students, to revisit their anatomy”.

“You touch and record, so all of the history of your touching and recording are written down in marks”.

“In essence you are touching and recording so all of the history of your touching is recorded and you can look at your marks”.

“Could be useful to use body painting to compare what the students knew initially, and then what they have learned after they have completed course”.

“What is remarkable about this is exactly the opposite of how students normally learn anatomy. They learn it and then regurgitate it back to you in a test. But this is exactly the opposite. They start knowing nothing (or depending on what level they are) and they explore for themselves and then they have a framework, when they go back and learn it they can say, ‘oh I remember this tendon I

made in green". More constructivist way to learn which is remarkable because this is not what you find in anatomy teaching".

"Play and learning is important. Students like to play (don't we all?), so combine it with learning".

"Students get excited and enthusiastic about using artistic practice. And educators get excited too!"

"We underestimate how much students like to play. So, let's use play in education".

"I want to bring fun into anatomy education".

"I found it quite therapeutic...I could just sit there and do nothing and just be palpated which was really nice (laughter from group). The students don't have to come in with any knowledge because they are just going to come in and feel and observe or draw or paint what they feel so there is no pressure on the student to begin with. I think this would be really helpful to my students because there is not a lot of pressure to 'get it right' ...they are exploring after all".