



## ***Gunther von Hagens' Body Worlds: Pulse*** **Summary of Ethical Review Update** **2016/2017**

### **Background**

In December 2004 the California Science Center conducted a thorough evaluation of the educational merits and ethical nature of the European exhibit *Body Worlds: An Anatomical Exhibition of Real Human Bodies*. The anatomy and physiology exhibit developed by Dr. Gunther von Hagens featured more than 200 real, preserved human specimens, including entire bodies as well as individual organs, and body parts. Based on the nature of the exhibition and previous controversy in Europe, the Science Center conducted the evaluation before agreeing to debut the exhibition in the Americas. Central to this review process was a local Ethics Advisory Committee composed of religious community leaders, bioethicists and ethicists established to advise the Science Center. In addition, an internationally recognized bioethicist was hired to conduct an independent review of the firm and donor documentation. The consensus of the Ethics Advisory Committee – among other findings - was that the human specimens on display had been donated for educational purposes with appropriate informed consent, and the exhibit had considerable educational value.

Based on their recommendations and staff assessment, the Science Center hosted 3 Body Worlds exhibitions in 2004, 2005 and 2008. Each exhibition broke box office records, and they continue to be the 3 most popular exhibits in the Science Center's history. Moreover, guest surveys conducted pre and post visit and again a year later confirm the exhibit to be positively received, memorable, and highly educational.

For May 2017 the Science Center was interested in hosting *Body Worlds: Pulse*, the latest exhibition from Gunther von Hagens' Institute for Plastination. As a part of their assessment and because it had been twelve years since the first ethics evaluation, the Science Center reconvened the Ethics Advisory Committee. The Committee members reviewed their previous ethics report, evaluated specific specimens for *Body Worlds: Pulse*, and suggested an updated review of body donor documentation. Senior Science Center staff then traveled to Germany to review post-2004 body donation documentation and discuss specifics of the display with *Body Worlds* senior staff and report back to the Ethics Committee.

This report outlines both the process and the results of the 2016-2017 updated ethics review.

## **Ethics Advisory Committee**

The following members of the Science Center Ethics Advisory Committee participated in the updated review. Previous members had moved out of town or were no longer available:

Rabbi Morley Feinstein  
*Senior Rabbi*  
*University Synagogue*

Stanley G. Korenman, MD  
*Associate Dean for Ethics, and Professor of Medicine,*  
*David Geffen School of Medicine at UCLA*

Reverend Cecil L. "Chip" Murray, REL. D.  
*Cecil Murray Center for Community Engagement*  
*University of Southern California*

Neil S. Wenger, MD  
*Professor and Chairman, Ronald Reagan-UCLA Medical Center Ethics Committee*  
*UCLA Medical Center*

*Hon. Mark Ridley-Thomas*  
*Supervisor*  
*Los Angeles County Board of Supervisors*

## **Overall Opinion**

- The Ethics Advisory Committee confirmed the findings of the original ethics review - that the exhibit has considerable educational value and is appropriate for the Science Center.
- What makes the exhibit compelling (real bodies in everyday poses) is also what makes it controversial. Without those very features, the exhibit would not be such a powerful educational experience.
- The plastinates are displayed in the context of science, health and medical education, and create an atmosphere of respect.

## **Donor Documentation and Consent**

- The Science Center reviewed body donor documentation on the Body Worlds database concerning all donors who died between 2004 and 2016. All documents that were in German were translated or a translator was available. The data were sorted and compiled to provide the following information (names redacted):

- Diseases suffered by gender, country
  - Women donors by age, country
  - Number of bodies available by gender and year
  - Body parts provided to universities and medical institutions
  - Total number of donors who agreed to be posed in a sex position for public display by age, gender, country
  - Number of donors agreeing to public display by gender, age, country
- Of the total 16,648 body donors, 1,606 died between 2004-2016.
- Staff reviewed approximately 10% of the individual deceased donor files to check the database for accuracy.
- Results of Documentation Review:
    - The body organs from *Body Worlds-Pulse* are from donors deceased before 2011 when there were no data collected on donor diseases, so we could not confirm that the diseased organs in the exhibition were available. Starting in 2012 such data on donor diseases were collected. Those data reveal that a total of 147 of the body donors who died between 2012 and 2016 suffered from at least one of the following ailments: lung cancer, cirrhosis of the liver, infarction of the heart, emphysema, breast cancer, stroke, liver cancer, and brain tumor. The raw donor files were spot checked and verified the accuracy of the database. No discrepancies were found. The Science Center considered these donors to be representative of the 1,606 donor pool, and was satisfied that – as the vast majority of donors died of natural causes - an adequate number of donors with diseases featured in the exhibition were available for plastination.
    - 1,408 available donors (out of 1,606) agreed to be on public display.
    - The pregnant female specimen is the one displayed in the second Body Worlds exhibit hosted at the Science Center in 2005, and was reviewed in the first ethics report.
    - The cause of death is not always listed or is vague in German death certificates. However of the over 137 donor death certificates reviewed, all but 2 were found to have died of natural causes.
    - In the 137 donor files reviewed, no discrepancy was found between death certificate and body donation form.
- Availability of Donated Bodies:
    - There are 16,648 total body donors, living and deceased through 1/3/17. Each body donor can supply many specimens for various institutions. The Science Center did not

attempt to trace the disposition of all specimens from each donor, but were satisfied that there is an adequate supply of donors to meet the various demands.

- There are 1,859 deceased body donors through 1/3/17 and available for plastination. (206 died prior to 2004 + 1,606 died b/w 2004-2016 + 47 died b/w 2016-2017).

## Educational Value

The educational value and positive health message of the exhibit is central to its ethical status, and is demonstrated throughout, including:

- Marketing and Communications messages reflect the impact of lifestyle on human health:
  1. The California Science Center introduced *Gunther von Hagens' BODY WORLDS* exhibition of real human body plastinates to the Americas in 2004, drawing a record setting million-plus visitors. In response to popular demand, the Science Center is proud to welcome Dr. von Hagens' latest exhibition *BODY WORLDS: Pulse*.
  2. *BODY WORLDS: Pulse* provides an opportunity to learn about human anatomy, physiology and health. The new generation of plastinates includes an obese body slice, a smoker's black lung and hardened arteries that show the impact of ill health, while dancers, sports figures, and a woman bearing life illustrate how bodies function when lifestyles support good health and well-being.
  3. Through the authenticity of the specimens on display, we experience the wonder of the real human body and marvel at its elegance and complexity. It is because the specimens are real that we connect with them so profoundly.
- Select organs display conditions of health and illness. The accompanying exhibit text addresses the health messages powerfully conveyed by these specimens. Effective juxtapositions include:
  - Exhibits on proper eating, nutrition, and exercise displayed by obese and non-obese specimens, and by clean and stenotic carotid arteries;
  - The health effects of smoking addressed by lungs of a non-smoker and a smoker.
- While there is no plan to mention the importance of organ donation in the exhibit and that this is compatible with the body donation program, donation is mentioned on the Body Worlds site linked to the Science Center's website.
- The Science Center will host one or two *Science Matters* educational panel discussions in conjunction with the health messages of Body Worlds during the run of the exhibition.

## Issues related to Specific Specimens

- **Fetuses.** The fetuses and embryos on display are from collections acquired before 2004 and are covered by the previous ethics review. Dr. Von Hagens certified that those specimens are from historical anatomical collections and morphological institutes that pre-date 1930. They will be displayed in a separate, clearly marked area.
- **Reproductive Couple.** These specimens were deemed appropriate based on specific body donor consent, educational value, and restricted access:
  - For those body donors who agreed to be in a sex pose Ethics Advisors concluded that there was adequate informed consent. *Body Worlds* is by now a known brand; we are confident all body donors know what they are donating their bodies for when they agree to being on exhibition, and when they agree to be posed having intercourse.
  - Guests may choose to view or avoid the specimens, which will be displayed in a separate signed section with staff to prohibit minors without parent or guardian.
  - No photography will be permitted in this section.
  - *Body Worlds* is touring a total of three sex couples in eight exhibitions, plus a plastinated slice. All were prepared between 2005-2008. During that period we confirmed that a total of 30 donors who agreed to be posed in sexual positions for public display died and are available. Science Center staff reviewed the files of the two donors who are in our display. They consented to public display in a sex pose.
  - The educational message focuses on the sex act. In addition to procreation, sex can transmit sexually transmitted infections (STIs). The messages are conveyed through specimens, photos, and text:
    - The specimens are displayed so that one can easily see the position of the sex organs, and how the position enables conception, as well as the transmission of body fluids. This is visible not only on the specimens but through sagittal slice through another couple that reveals further views into the bodies.
    - Annotated photos will illustrate details of the plastinated specimens on display.
    - Text will provide anatomical and physiological information about the sex act, and health education messages focusing on the STIs of gonorrhea and syphilis, which are a growing national and local problem, as well as information about HIV transmission.
  - In discussions with Science Center education staff and with the Ethics Advisors it was determined that access to the section with the reproductive couple will be restricted. Children under 17 will need to be accompanied by a parent or adult guardian. Staff and signage will be present.

## **Decisions made by the California Science Center, based on updated Ethics Review**

### **1. Consider that many visitors are viewing the displays for the first time.**

The guests should regard the bodies with respect and appreciation. To foster such an attitude, the Science Center developed an entrance foyer similar to the previous Body Worlds exhibits in order to:

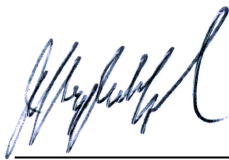
- Answer major questions the guests may have on the authenticity and source of the bodies, and the reasons for the everyday poses;
- Communicate the science, medical and health purposes of the exhibit;
- Convey the thorough ethical review, by community and religious advisors, conducted by the Science Center in preparation for the exhibit.
- Slow people down; and foster a reverential and respectful mood.
- Encourage respect and appreciation for the bodies and the insights they provide.

### **2. Parental guidance should be encouraged.**

- The Body Worlds Parent Guide in English and Spanish will be available online and at the Ticket Box Office for parents to review prior to purchasing tickets.
- While we greatly encourage children and teenagers to attend, those under 13 must be accompanied by a parent or adult guardian.
- Viewing of the Reproductive Couple specimens is restricted. In this section, children under 17 need to be accompanied by a parent or adult guardian.

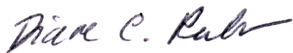
### **3. Measure the Impact of the Exhibition**

- Science Center staff will conduct entrance/exit surveys during the run of the exhibition. In addition, staff will conduct a 1-year follow-up study to evaluate the retention of knowledge and any lifestyle changes reported as a result of viewing the exhibition.



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