The Friday Four: Surgeon Creates 3D-Printed Pelvis

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The Friday Four seeks to highlight some of the people behind some of the interesting stories I stumble upon during my daily search for relevant content.

Discussed this week: A Pennsylvania nurse accused of helping her terminally ill father commit suicide, a 14-year-old boy's inspirational message in the snow brings joy to several hospital patients in Chicago, and more. Happy Friday!

1. Barbara Mancini -- The Pennsylvania nurse saw an assisted suicide charge against her dropped this week after a judge determined there was not enough evidence to move forward with a case. Mancini, a resident of the Philadelphia area, is accused of handing her 93-year-old terminally ill father a bottle of morphine last year for the purpose of ending his life. Joseph Yourshaw took nearly a full bottle’s worth of the drug and died at a nearby hospital four days later.

However, a judge threw out the charge [1] and stated the Pennsylvania Attorney General's Office failed to prove a crime occurred. Here's what Schuylkill County Judge Jacqueline L. Russell said in her 47-page opinion on the matter:

"*The evidence does not indicate that Mr. Yourshaw's daughter had solicited, counseled, urged, or convinced him to kill himself, nor does the evidence indicate that his daughter injected, administered, or actively participated in Mr. Yourshaw's actual ingestion of the morphine.*"

I found this story very interesting in the wake of a news item I came across about a month ago [2]. That news item detailed a New Mexico judge's decision that cleared the way for competent, terminally ill patients to seek their doctors' help in getting prescription medication if they want to end their lives on their own terms. There has been quite a bit of controversy surrounding both rulings, and it appears the issue of assisted suicide is growing more divisive by the day. I'm sure there will be more high-profile cases in the coming months and years. That's about the only fact anyone can be sure of when it comes to these matters.

2. Will Hart -- With the help of his dad, a 14-year-old boy stomped out a loving and inspirational message in the snow that his mom could see from her hospital window at Chicago's Rush University Medical Center. Will Hart and his dad, Tim, created a gigantic saying that read "HI MOM GOD BLESS U" on a parking garage rooftop visible from the top four to six floors of the hospital.

This story made my week, mostly because of the story behind the message. It was initially meant for Will Hart's mom, Sharon, who was hospitalized at the facility last week for acute leukemia. A nurse on the overnight shift saw the Hart family on the top of level of the nearby garage at approximately 1 a.m. on Sunday, but she assumed some people were simply playing in the snow. However, it quickly became evident they were stomping out a message, one which served as a source of joy and inspiration for hundreds of hospital patients and staff. Check out more in the video below:

3. Dave Smith -- The University of York scientist was inspired by his partner's recovery from a double-lung transplant, so he decided to make a concerted effort to change the way post-operative patient care is done. His efforts called for him to design and synthesize new chemical agents that bind and potentially do away with the anti-coagulant heparin, a drug used during surgery to prevent clotting. Here is Smith, a professor at the university's Department of Chemistry, discussing the genesis for his efforts in a recent article [3] that ran on *Surgical Products* earlier this week:

"*I was sitting at my husband Sam's bedside while he recovered from a double lung transplant when the idea first came to me. I spent a long time talking to surgeons about all the drugs they used, and some of the problems they caused, and as I sat there, looking at all the tubes, I realized that perhaps my research team could help.*"

The use of heparin is extremely necessary during surgery to prevent clotting. However, clotting is also extremely necessary to the post-surgical healing process. As a result, doctors employ an agent called protamine to assist with that process. Since there can be (potentially dangerous) side effects to the drugs, doctors have to use them carefully. Therefore, post-surgical clotting isn't always as effective as it needs to be.

But Smith's work could remove heparin from the equation altogether. He and his research group believe their efforts could lead certain chemical agents to bind and remove the heparin, minimize side effects, and improve patient care. Furthermore, I find it heartening that his partner's health struggles served as the impetus for Smith's research. Simply stated, that's pretty neat. I'm also quite excited to see if the results of Smith's work achieve their vast potential.

4. Dr. Craig Gerrand -- A British surgeon employed 3D printing technology to create half of a new pelvis for a middle-aged man who lost half of his original one in a battle with a rare bone cancer called chondrosarcoma.

The patient recently underwent a transplant procedure to receive the new pelvis and is now able to walk with the use of a stick. Here's how Dr. Gerrand, a consultant orthopedic surgeon at Newcastle upon Tyne Hospitals NHS Trust, describes the patient's situation:

"*The cancer affected virtually the whole right side of the pelvis. Since this cancer does not respond to drugs or radiotherapy, the only option to stop it spreading was to remove half of the pelvis.*"

So much of the bone needed to be removed from the patient's body that an implant was a less-than-ideal solution. As a result, Dr. Gerrand offered him the alternative of receiving half of a 3-D printed pelvis. Read more about how it was created here [4].

Have any nominees for The Friday Four? Email me at mike.schmidt@advantagemedia.com *[5]. Check out more news, blogs, and product content at* www.surgicalproductsmag.com *[6].*

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