

Hope for Mark and the Little Guys

By Amy Brown

Mark McKenzie is relaxed even when putting out fires as a consultant for the Senate Appropriations Committee, the killing ground where legislation that has an unacceptable cost goes to die.

Mark McKenzie is also a 37-year-old man who fought two bouts against Hodgkin's Lymphoma, and won both times.

A self-proclaimed Air Force brat, Mark and his three brothers spent most of their childhood in Nebraska with their mom, while their Air Force father traveled the world. His parents eventually divorced. He remained close to both of them. After high school, Mark followed his dad, his new step-mom and his half-sister to Arizona, where he attended college and graduate school. He was an aspiring engineer, who learned he had an appreciation for twentieth century Middle Eastern history.

He then headed to Austin, Texas to acquire his doctorate with dreams of living a professor's life. After a little more than a year, however, Mark realized that in the '90s there was no money in Middle Eastern history. Instead, facing a mountain of student debt, he went back to Arizona where his best friend, Matt King, helped him land a job at a small engineering firm.

While managing operations at work, Mark found himself fingering a peanut-sized lump in his neck. "I would unconsciously play with it, not really knowing what it was, but it itched quite a bit, so I thought I'd better get it checked."

Treatment

Mark was prescribed some antibiotics, which seemed to get rid of the little lump altogether, which he passed off as a

"flooky lymph-thing".

Meanwhile, two people prominent in Mark's life moved away—a girlfriend to New York, which ended a near decade-long relationship, and his best friend, Matt, to Sacramento. Mark decided to follow Matt. Matt's new girlfriend, Kristen, a lobbyist, hooked him up with the Assembly Rules Committee, who got him a successful interview with an Orange County Assemblyman.

While helping construct a legislative agenda, Mark noticed the peanut-sized lump had reappeared. It was the summer of 2001. Mark sought out his general practitioner. He was referred to an ear, nose & throat specialist who conducted a needle biopsy and performed other blood work.

His general practitioner told Mark the test results were inconclusive, but warranted some concern. The following day, Mark received a call from his ENT who asked him to come in to the office.

Admittedly, Mark didn't grasp the lingo the doctor began using on him. "Looks like we see some lymphatic activity." The terminology Mark understood was "minor surgery."

Mark admits he had no

idea what lymphatic activity meant, so he headed to Barnes & Noble to do a little research on what was being said. He felt a sense of suspended reality as the pages of the medical books spelled out his fate. He had cancer and the doctor at the clinic was too uptight to say the word.

Mark was referred to a hematologist/oncologist at the UC Davis Cancer Center. Annoyed with having to take medication and endure the rigors of being a patient, Mark spent his free time playing hockey, mountain biking, hiking, and snowboarding, which again, was contradicting any sense that an all-season outdoor young guy got cancer.

In mid-December, 2001, Mark found himself on an operating



Mark, before the surgery, surrounded by friends.

table. He shared with Matt and Kristen that he was going in for surgery. By this time, Matt and Kristen were engaged and the three of them were living together under one roof. He figured if his California family knew what he was going through, he was fulfilling his duty about disclosing his illness. Mark's mother knew he was going into surgery, but for what, she hadn't a clue.

When pressed why he didn't tell his mother what was going on with him, Mark simply says, "I didn't want to worry her. She was a single mom who raised four boys in Nebraska. She took good care of us; I thought I would spare her the distress."

Besides, Mark still thought it was nothing - they would remove the "bad parts" and he'd be fine.

A defining moment came when a nurse who deals with cases like Mark's, sat next to his gurney and told him the cancer wasn't isolated to this small tumor in the neck. As the veteran nurse stroked Mark's arm, he allowed himself to feel the full effect of the diagnosis for the first time since noticing the bump back in Arizona.

A week later his bandages were removed and he saw a five-inch gash on the side of his neck.

"I looked like young Frankenstein, which freaked me out, but again, not to the point where I was diagnosing myself with the advanced cancer the nurse talked about. The only thing that really pissed me off was that the gash in my neck turned out to be bigger than the one to two inches the doctors told me it would be."

After the surgery, Mark went home for Christmas. He decided to tell his mother the truth about the cancer spreading to other parts of his body. The surgery on his neck did not provide the resolution for which he hoped. There was a mass the size of an orange in his chest. He had a lump the size of a walnut in his neck. He told her about his CT scans, his needle biopsy and the details about his surgery. He emphasized the high percentage of survival for someone diagnosed with Hodgkin's.

Mark was surprised at how easy it was to share with his mother the challenges that were ahead of him.

By mid-January, his throat was scratchy. There were no other noticeable symptoms. He underwent several more CT Scans, blood tests, and MRIs. A doctor made Mark lay on his stomach and told him that he was going to "feel a little pressure" while he injected a four-inch needle into the flat bone on the top of Mark's pelvis. The painful part came later when she ground a screw syringe into the center of the bone to draw out the liquid marrow.

"It was by far, the most painful forty seconds of my life. It felt like my nervous system was on fire. A little pressure, my ass!"

From the results of the bone marrow test, Mark learned he had Stage 4 Hodgkin's lymphoma: the cancer had spread throughout his lymph system and was in his bone marrow. The only place the

cancer could go at this point would be to other organs.

A Hotel for the Little Guys

"So, do you want to have kids?"

It was a strange question coming from his oncologist. Mark said he didn't even have a girlfriend, but that some day, yes, he could see himself having children. That's when the doctor explained how cancer treatments typically kill all sperm forming cells.

The doctor referred Mark to a fertility clinic. It was explained in matter of fact terms that he could "deposit" samples of his semen, which can be safely stored in this frozen state for 10 years or longer. There was a timeline to get it done. Mark had eight days before his first scheduled chemotherapy.

Mark describes the clinic as sterile. It was sanitized. And, most of all, it was private. Aside from the receptionist, he didn't encounter another human being.

"This was one of the most surreal experiences of my life," he admits. "It was all of the cheesy sitcom stuff...dim room, erotic art on the walls, stacks of adult magazines....mixed with the cold feel of a doctor's examination room...a spotless porcelain basin. I was also given specific written and illustrated explanations on how to accomplish my task (as if I'd never done this before?) and a tray of medical supplies."

Mark laughed at the absurdity of the situation in which he found himself. He laughed until he realized that he wasn't leaving until he did what needed to be done in the name of his future children.

Mark faithfully directed the consequences of his endeavor into a ridiculously oversized cup.

"Was I supposed to fill this thing?" he wondered. "Was there someone on the other side of the wall waiting to take care of his little guys?"

He didn't see it happen, but a technician took Mark's sperm and mixed it with an equal volume of cryoprotectant solution. The diluted sample was then loaded into small plastic tubes ("straws") for freezing. Mark's straw was labeled with his name, the date, his chart number, a unique lab number and secured in a cryogenic storage container. Their performance is still checked weekly by a technician.

There is an out-of-pocket cost. Mark paid an initial deposit fee of \$350 and an annual bill of \$250. "I'm paying rent for the little guys."



Mark fighting the illness.

Battling Back

Treatment for cancer began on schedule. Mark didn't lose his hair until seven weeks after starting chemotherapy. He decided to shave his head instead of allowing his hair to fall out in clumps. "Except for the eyebrows, I pretty much lost all the hair on my body, and with the jaundiced color my skin took, I felt like a space alien."

On Sept 30, 2002, the day he had his first haircut after treatment, he stood by as his friends Matt and Kristen married. And, as fate would wrap up a perfect package, that was also the day he met his current girlfriend - Dee, the wedding photographer.

By the end of 2002, Mark was playing hockey and snowboarding, and apart from some stubbornly low blood counts and a few scars, his body was rebounding. It didn't take long before reality slapped him in the face again. A CT scan in January 2003 confirmed evidence of more "lymphatic activity." This time it was in the armpit, and Mark didn't need Barnes & Noble to know what that meant.

Stem Cells

On an operating table, Mark learned that a mass from his armpit was genetically identical to his previous disease. The doctors brought out the big guns to deal with the recurrence, recommending a bone marrow stem cell transplant. The general idea is to harvest stem cells from the patient's bloodstream, administer high doses of chemotherapy to deplete the bone marrow, and re-introduce the stem cells to grow new bone marrow. It would be a more grueling regimen than his first treatments.

Mark was open with his friends and family, and even encouraged them to join him when he visited the doctors. Dee, his girlfriend of almost a year, was turning into a partner. She had seen the devastation of cancer through her own father's death. Her courage was sustaining as she stayed by his side through the calendar of needles, radiation, chemicals, and doctors.

As part of the stem cell harvesting, Mark had to give himself shots of Neupogen, a drug that stimulates the production of blood cells in the bone marrow. Once the body produces huge amounts of immature stem cells they are released into the bloodstream. The stem cells are then "harvested" from the bloodstream when the patient's blood is pumped through a machine that filters out the cells. Mark was a "slow-collector" and had to go into the blood clinic 6 times before reaching the magic number of usable stem cells: 5 million.

"I became obsessed with the numbers involved with my treatment. I collected everything I could from my numerous blood tests, radiology reports, even all the secret codes the doctors use to identify things," he says. "This knowledge brought me a sense of control over my disease."

In hindsight, Mark realizes that his thought processes were

pretty ridiculous. Even if he knew that his platelet counts were at a dangerous level, he couldn't make more of them grow.

For this transplant to work, Mark had to be isolated for almost a month in his hospital room. He could not leave for any reason. He had to wash his hands and mouth 5 times a day, he could not have guests visit him who were under the age of twelve, and those guests who were allowed to enter the room adhered to strict sanitation rules. They had to wear proper gowns and footwear, they had to scrub their hands, and they could not crawl in bed with him or engage in kissing.

Even flowers were not allowed because they tend to collect bacteria.

"Everyday I looked forward to a regular migration of blackbirds at dusk. It was calming to watch them fly by my 8th floor window, and I knew that everyday I saw them was another day I could scratch off the calendar."

Luckily, Dee, Matt, and Kristen prepared his strictly monitored meals for him, sparing him the hospital menu, even though his taste buds were completely fried from the chemo. Everything that entered and exited patient number 8059325 was controlled.

He was the boy in the bubble. It worked.

Living With It

It's been a year and a half since Mark walked out of the hospital and while he accepts the frequent cancer testing, Mark says he doesn't mind. "I've learned you get through anything."

His friends hope that those little guys in the cryobank inherit the toughness in their father's genes.

Side story: Frozen sperm are stored at negative 196°C in metal flasks filled with liquid nitrogen. As long as freezing conditions remain at a constant temperature, sperm can survive the freezing process indefinitely. The frozen semen can be stored for fifty years without additional sperm deterioration beyond that caused by the original freezing process. The DNA of sperm is resilient to the freezing process. That is why sperm banks have been in operation for a long time. In fact, in 1866, a man by the name of Montegazza was the first to envision banks for frozen human sperm. He suggested that "a man dying on a battlefield may beget a legal heir with his semen frozen and stored at home." While his foresight was remarkable, the first successful human pregnancy with frozen sperm was reported 87 years later in 1953. (Footnote - California Cryobank, Inc. -History of Sperm Banking, Reproductive Tissues Services website: www.cryobank.com/sbanking)