

[Moore v. Regents of the University of California \(1990\)](#)

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By: Nott, Rohini Keywords: [Mo cell line](#) ^[2] [informed consent](#) ^[3] [research ethics](#) ^[4]

On 9 July 1990, in *Moore v. Regents of the University of California* the Supreme Court of California ruled in a four-to-three decision that individuals do not have rights to a share in profits earned from research performed on their bodily materials. In its decision, the Supreme Court of California ruled that cancer patient John L. Moore did not have personal property rights to samples or fluids that his physicians took from his body for research purposes. Moore created the precedent in California that although physicians are required to disclose their research interests to their patients, patients do not have property-related claims to any samples that their physicians take from their body. The Supreme Court of California's decision in *Moore v. Regents of the University of California* enabled physicians and researchers to retain legal ownership on samples taken from their patients' bodies so that they can conduct what the court describes as socially important medical research, such as work on reproductive cancers or developmental disorders.

Moore first visited the University of California, Los Angeles, or UCLA, Medical Center in Los Angeles, California, on 5 October 1976, shortly after he learned he had hairy-cell leukemia. Hairy-cell leukemia is a rare type of cancer that occurs when a person's body produces many defective lymphocytes. Healthy lymphocytes are infection-fighting white blood cells, whereas the defective lymphocytes in hairy-cell leukemia actually weaken the immune system because they overpopulate and crowd out healthy lymphocytes. The disease gets its name from the hairy appearance that defective lymphocytes exhibit when viewed under a [microscope](#) ^[5]. To confirm Moore's diagnosis, physicians at UCLA hospitalized him and withdrew large amounts of blood and other substances, such as [sperm](#) ^[6] and skin, from Moore's body. Because Moore had a rare form of leukemia, his blood contained substances that the Supreme Court of California later described to be of great value for commercial and scientific efforts, like drug development.

On 8 October 1976, physician David W. Golde recommended that physicians remove Moore's spleen to slow down the progression of his leukemia. One of the spleen's roles in the body is to store white blood cells, which help the body fight infections. In hairy-cell leukemia, the spleen fills with defective lymphocytes. According to the Supreme Court of California, prior to Moore's spleen removal surgery, UCLA physician Golde and researcher Shirley G. Quan planned to obtain portions of Moore's spleen after its removal for research on Moore's defective lymphocytes. Moore signed a written consent form authorizing his spleen removal surgery, which took place on 20 October 1976. However, though he consented to the surgery, he did not provide full [informed consent](#) ^[7] of Golde and Quan's research plans and so, he did not directly authorize the use of his spleen cells for research. The term [informed consent](#) ^[7] describes the process by which healthcare professionals or researchers take every effort to ensure their patient or subject understands the purpose, benefits, and risks of their test or treatment, and any possible alternatives. Within days, Moore's physicians found that Moore's blood profile had returned to normal, meaning his cancer became undetectable.

After the surgery, Golde studied Moore's spleen and found that Moore's defective T-lymphocytes were unique. T-lymphocytes are a subtype of white blood cells that are involved in the body's process of fighting off infections. According to the Supreme Court of California briefing, Golde found Moore's T-lymphocytes interesting because his T-lymphocytes overproduced certain lymphokines, which are proteins that help regulate the immune system. If the scientists could uncover what led to the overproduction of those lymphokines, they would be able to utilize it for certain medical technologies. According to the Supreme Court of California, by the year 1990, Moore's cells had a potential market value of 3.01 billion US dollars.

According to the Supreme Court of California, Golde wanted to continue conducting research on Moore's bodily samples, and so, he recommended that Moore visit him at the UCLA Medical Center for continued testing and sampling. Though Moore resided in Seattle, Washington, he visited UCLA Medical Center many times between November 1976 and September 1983, per Golde's recommendations. On each visit, Golde took blood, bone marrow, and other samples from Moore's body. According to Moore, Golde led him to believe that procedures he received at UCLA Medical Center could only be performed there and only under Golde's direction. Moreover, Moore claimed that Golde led him to believe the testing and repeated tissue sampling during his visits were necessary for his treatment, though in reality, the testing and sampling no longer played a role in his medical care. Instead, Moore claimed in the court case that those visits were to further Golde's research.

According to newspaper *Chicago Tribune*, Golde had worked for many years to develop a way to reproduce Moore's spleen cells continuously. Before August of 1979, Golde established a cell line from Moore's T-lymphocytes. A cell line is a group of cells that multiply on their own, outside of an organism and typically in a research laboratory, that scientists can use to study what causes various diseases. Researchers could use the cell line that Golde derived from Moore's body, which he named Mo to signify Moore, as a model by which they could understand the underlying mechanisms of leukemia. Golde could in turn make

a profit by selling the cell line to other researchers. However, Moore never granted explicit consent for such uses of his cells.

On 30 January 1981, the Regents of the University of California applied for a patent on the Mo cell line, allowing the Regents, Golde, and Quan to hold any share in profits that arose from the use of Moore's cells. In science writer Rebecca Skloot's 2010 book, *The Immortal Life of Henrietta Lacks*, she describes the process by which both cancer patient Henrietta Lacks's and Moore's cells were commercialized by physicians and researchers, without their consent. According to Skloot, in 1983, Moore was suspicious regarding a new consent form that UCLA physicians asked him to sign. The consent form stated that Moore would voluntarily grant all rights to the University of California for any cell line or potential product developed from Moore's blood and bone marrow. Though Moore initially signed the consent form, he refused to re-sign away his rights at later visits. In 1983, upon seeing that Moore did not sign away his rights, Golde asked him to come back to UCLA to correct what Golde described to Moore as a mistake, implying that Moore should re-sign the consent form and waive his rights. According to newspaper *Chicago Tribune*, Moore became suspicious and sought legal advice from Beverly Hills attorney Sanford M. Gage, who specialized in medical cases.

On 20 March 1984, the US Patent Office issued the patent on the Mo cell line to the Regents of California, with Golde and Quan listed as inventors. Golde had contracted with Genetics Institute, Inc. and Sandoz Pharmaceuticals Corporation to develop the Mo cell line into a commercial product. Researchers expected that the cell line had promising therapeutic value for strengthening the blood of cancer patients whose white blood cells had been destroyed by chemotherapy. With the patent and an agreement with the Genetics Institute, Inc. of Cambridge, Massachusetts, Golde acquired the rights to 75,000 shares of common stock in the patent. Moreover, the Genetics Institute, Inc. also agreed to pay Golde and the Regents at least 330,000 US dollars over three years, in exchange for exclusive access to the materials and research that they performed on the Mo cell line. They later added Sandoz Pharmaceuticals of East Hanover, New Jersey, which provided 110,000 US dollars for access to the materials and research in exchange for being added to the exclusivity agreement.

Moore became aware of the patent when he showed the consent form, which Golde had given him on multiple occasions at UCLA Medical Center, to his attorney Gage. Moore's other attorneys who collaborated with Gage included Christopher E. Angelo and Jonathan T. Zackey. Together, they discovered that Golde had created a cell line from Moore's T-lymphocytes by 1979 and had applied for the patent in 1983. Moore was never informed by his physicians at UCLA Medical Center that his cells had potential commercial value. According to Skloot, Moore had later told a reporter that he felt it was very dehumanizing for him to see that Golde had referred to him as Mo, the name of the cell line, rather than by his name in many of his medical records. Skloot stated that Moore felt suddenly that he was no longer a person to Golde, but rather just an entity from which Golde derived the cell line.

On 11 September 1984, Moore and his attorneys filed suit against Golde, the Regents of the University of California, Quan, the Genetics Institute, Inc., and Sandoz Pharmaceuticals Corporation. Moore and his attorneys Gage, Angelo, and Zackey argued that Moore had a right to some of the profits from his commercialized cells, which were being licensed to research institutions and companies. The legal team claimed that Golde and his team improperly converted what Moore alleged was his property, alleging Golde stole his spleen cells. Conversion occurs when a person or group takes one's property and refuses to give it back. Moreover, Moore sued for lack of [informed consent](#)^[7], claiming that he could not consent in an informed way to his medical procedures at UCLA because Golde had failed to disclose that he was using and selling Moore's cells. Moore also sued for fraud and deceit.

On 19 March 1986, the Superior Court of Los Angeles County ruled in favor of the Regents of the University of California. The lawsuit did not go to trial, as the judges Warren H. Deering and John L. Cole of the Los Angeles County Superior Court dismissed the case. Deering and Cole's rationale was that Moore had no case because he had no property rights to his cells. Moore then appealed the case to a higher court.

On 21 July 1988, the California Court of Appeal reversed the Los Angeles County Superior Court's dismissal and ruled in favor of Moore. According to Dennis McLellan, a reporter for the newspaper the *Los Angeles Times*, the case gained wide attention when the California Court of Appeal ruled in favor of Moore. Justices Allen E. Broussard and Stanley Mosk of the California Court of Appeal found that there would be no legal or biological justification why Moore would not have a sufficient property interest regarding his own bodily material. In other words, they ruled that a patient's blood and tissues are their personal property, authorizing the patient to share in profits on commercial products that researchers genetically engineered from them and their cells.

Moreover, the California Court of Appeal ruled that a jury would need to decide whether Moore's bodily samples, specifically those which Golde took from Moore's spleen, were abandoned property or improperly converted by Golde and UCLA. If a jury deemed Moore's bodily samples as abandoned property, then UCLA Medical Center held a valid property claim on Moore's bodily material. In the United States, generally, the law entitles anyone who finds abandoned property to keep that property. The law considers abandoned property, like garbage, available to others on a first-come, first-served basis. However, if the jury deemed that the case was of one of improper conversion, that would imply that UCLA Medical Center unjustly or illegally made Moore's property its own. The Regents of the University of California appealed the California Court of Appeal's decision to the Supreme Court of California.

On 9 July 1990, the Supreme Court of California reversed the California Court of Appeal's decision and ruled in favor of the

Regents of the University of California. Justice Edward A. Panelli, joined by chief justice Malcolm M. Lucas and justices David N. Eagleson and Joyce L. Kennard, wrote the majority opinion. Justice Armand Arabian concurred in a separate opinion. Justice Allen E. Broussard concurred in part and dissented in part. Justice Stanley Mosk dissented. Though the California Court of Appeal ruled that a patient's blood and tissues are their personal property, the Supreme Court of California ruled that Moore had no personal property claim on the Mo cell line. However, the Supreme Court of California also ruled that Golde and Quan did not provide Moore with acceptable [informed consent](#) ^[7].

As explained by the majority decision written by Panelli, Lucas, Eagleson, and Kennard, the Supreme Court of California found that Moore's physicians did not meet their obligations to assure Moore's [informed consent](#) ^[7]. Obtaining [informed consent](#) ^[7] ensures that the patient or subject can make a voluntary and informed decision to accept or refuse treatment. Therefore, the Supreme Court of California found that physician Golde and researcher Quan did not meet their obligation to inform Moore of what his treatments and tests would entail. According to Moore's attorney Gage, *Moore v. Regents of the University of California* was the first case that stated physicians must disclose their personal interests unrelated to the patient's health, whether for research or economic reasons. In 1990, Moore spoke to a journalist at the newspaper *Seattle Post-Intelligencer* in Seattle, Washington. He claimed that without his knowledge or consent, the doctors and research institutions used part of him for their own gain. According to Moore, the doctors and researchers had stolen from him.

However, as also explained in the majority opinion, the Supreme Court of California found that Moore did not have a cause of action for conversion of property for numerous reasons. First, the Supreme Court of California found that socially-important medical research would be hindered if researchers had to confirm that every cell line they used came from a willing donor. The Supreme Court of California argued that that could discourage researchers from doing medical research. Second, the Court found that Moore's cells are similar to a donated organ. The majority opinion argues that California statutes do not consider personal property interests for donated organs in that researchers only discover the potential value of the excised organ or cell after experimentation or research, which can take months to years after the removal of the organ.

As a part of the dissenting view, Broussard cited the Uniform Anatomical Gift Act, a regulatory framework for body donations to science, medicine, and education, and he claimed that patients do have personal property interests. Therefore, in his dissent, Broussard concluded that Moore did have a cause of action for conversion. Finally, the Court found that because one cannot patent natural or living materials, Moore did not have a right to the UCLA patent. The Court argued that the patent was not on Moore's cells. Rather, UCLA patented the Mo cell line, which UCLA researchers manipulated to get Moore's cells to replicate outside his body. Therefore, the Supreme Court of California ruled in favor of the Regents of the University of California, finding that Moore had no personal property claim on the Mo cell line.

Even after Moore's claim was rejected by the Supreme Court of California, he continued advocating for patients' rights. According to Moore's daughter Kara Saxby as referenced in the *Los Angeles Times*, Moore was very adamant that patients should know what is happening to their bodies or body parts. Following the Supreme Court of California's decision, Moore negotiated a settlement with UCLA. The settlement covered Moore's legal fees because UCLA physicians and researchers did not ensure his [informed consent](#) ^[7]. Moore decided to take the right to profit claim to the US Supreme Court. In 1991, the US Supreme Court denied to take the case, rejecting Moore's claim over the profit issue. The US Supreme Court argued that a hospital patient does not hold rights to tissues taken from their body, even if the tissues prove valuable to scientists. In 1994, Moore campaigned for patients' rights in Brussels, Belgium, by protesting against a proposed Belgian law that would deny individuals the right to share in profits made through use of their genetic material.

Moore's hairy-cell leukemia remained in remission until 1996. Remission is the term used to describe the period when one's cancer symptoms lessen or disappear. However, Moore's cancer returned, and on 1 October 2001, Moore died from hairy-cell leukemia at a hospital in Seattle, Washington.

The *Moore v. Regents of the University of California* decision had global consequences for medical scientists and biotechnology companies who use human tissue in their research or development of commercial products. According to *New Scientist* magazine writer Leigh Dayton, the decision left some issues unresolved. For example, the decision did not rule whether patients can ask for and receive payment for their tissues before their tissues are removed from their bodies. The decision also did not rule how much information researchers and physicians must disclose to their patients regarding their personal interests regarding their patients' bodily materials. Still, following the Supreme Court of California's decision, journalist J. E. Ferrell reported that the court's decision may add a dimension to the controversy over the use of fetal tissue in research, provide more context to the puzzle in the ownership of eggs and [sperm](#) ^[6], and affect [abortion](#) ^[8] rights decisions.

In 2010, author Rebecca Skloot uncovered the details of a story similar to Moore's in her book *The Immortal Life of Henrietta Lacks*. In 1951, researchers working at The [Johns Hopkins Hospital](#) ^[9] in Baltimore, Maryland, discovered that cancer patient Henrietta Lacks's tumor cells functioned as the first immortal human cell line, HeLa. Like Moore, Lacks's surgeon collected her cancer cells and gave them to a researcher at the same institution at which Lacks received her medical care. Researchers at UCLA Medical Center and The [Johns Hopkins Hospital](#) ^[9] used Moore and Lacks's cancer cells to develop cell lines. Both Moore and Lacks had not consented to the use of their cells for research, nor were they informed that their cells were of high market value. According to Skloot, Moore was unable to sell his cells to other researchers following the court's decision in *Moore v. Regents of the University of California* because that would have violated Golde's patent.

Moore v. Regents of the University of California established a legal precedent that other states' courts consider when establishing their rulings. For example, in the Florida case *Greenberg v. Miami Children's Hospital Research Institute* in 2003, or *Greenberg*, researchers were studying a group of children who had Canavan disease, a developmental disorder causing progressive damage to brain cells. The researchers at Miami Children's Hospital Research Institute in Miami, Florida, patented the Canavan gene sequence based on those children's tissue samples. The United States District Court for the Southern District of Florida ruled in alignment with *Moore v. Regents of the University of California* that the parents of those children had no property claim to their children's tissue. In *Stone v. Regents of University of California*, physicians at the University of California, Irvine's fertility clinic, the Center for Reproductive Health, in Irvine, California, implanted human eggs and embryos into other patients without the donors' knowledge or consent. According to Judith D. Fischer, who was an associate professor of law at the University of Louisville in Louisville, Kentucky, the physicians' defense in that case relied heavily on *Moore v. Regents of the University of California*. However, the court ruled against the physicians at the fertility clinic.

Moore v. Regents of the University of California ruled that patients do not have a right to share in profits earned from their body parts. According to legal scholars Richard A. Epstein and Catherine Sharkey, following the decision, most United States courts have ruled against family members who have filed suit against research institutions and universities over the commercialization of their dead family members' body parts, as of 2016. The Supreme Court of California's decision in *Moore v. Regents of the University of California* establishes precedent that although researchers and physicians must ensure their patients' [informed consent](#)^[7], they hold legal property-based claims to any bodily materials they remove from their patients' bodies.

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