

**Issues in Bioethics**  
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**Module No. #01**  
**Lecture No. #03**  
**Historical Evolution of Bioethics**

Welcome to this course on Issues in Bioethics. This is Module One and Unit Three. So, this lecture will focus on the topic, historical evolution of bioethics. This is in continuation with, what we have been doing the previous two lectures, where we have just introduced the discipline bioethics. And here, we are trying to see some of the very important historical factors that were responsible to the emergence of bioethics are rather more appropriately modern bioethics.

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**Introduction**

- From traditional to modern bioethics
- Problems with traditional medical morality
- Ethics of human experimentation and medical trials
- The problem of regulating medical research



So, I have been referring to this, that the other whole idea of traditional medical morality. And a passage from this traditional medical morality to modern bioethics has been a very interesting passage. And there are several factors that have, that are responsible for this passage or rather the emergence of modern bioethics. Some of them are political, some of them are scientific, some of them are technological. So, we will try to see some of these factors in this lecture as well as the coming one.

In this context, we have to also address this problem. Some problems with traditional medical morality, which will address here. That, what characterizes the modern-day medical

medicine, is the way in which, medicine functions on the society with the hospitals and with technology and with lot of scientific knowledge. That is not the case in the ancient society. So, there you know, it was mostly a relationship between the patient and the physician. But now that has changed. And ethics of human experimentation and medical trials, so this has been a very important issue or rather a very important problem, which actually was responsible for the emergence of modern bioethics.

That, there are a lot of human experimentation was necessary for the growth, for the emergence of modern medicine and on the one hand, this human experimentation were necessary on the other hand human experimentations involve human beings, as subjects. So, this raises, this scenario actually raises a lot of interesting questions which traditional medical morality was unable to tackle with. So, you need a set of new norms, a new set of new standards to deal with such situations.

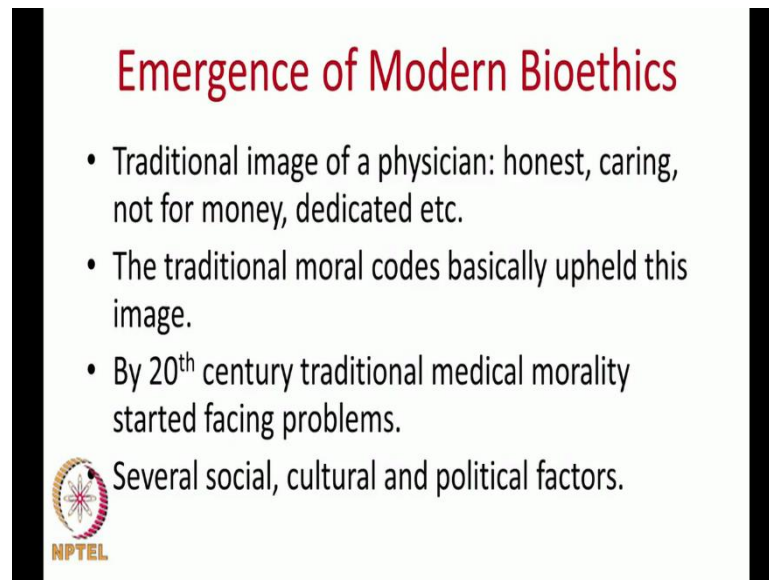
So, modern bioethics tries to respond to such situations. Again, the problem of regulating medical research has become so important in this context. Because on the one hand, as I mentioned, you need research but on the other hand, you need to regulate it properly. Because, otherwise lot of rights will be violated, lot of legal and ethical issues will be generated. So, we have to be careful about it and we have to strike a right balance between these two. So, that's the challenge of the modern day.

Now, when we talk about traditional medical morality, the traditional image of the physician is a person, who is very honest, very caring and who delivers his duties, not for money and was completely dedicated towards his patients and also to the trade and all that. So, we have this image of a traditional physician, who is almost equated with god. Who is a divine figure in many civilizations, particularly in India.

For example, The Vaidya is so considered as almost equivalent to God and the people had ultimate trust on him. And the traditional moral codes basically upheld this image. Because, as in the previous lecture, we have seen that there is a lot of emphasis on, how the physicians should conduct himself, how patient should conduct himself or rather the emphasis on individual conduct is quite evident.


And there again, the underlying assumption is that the physician has to be trusted. patients have to trust the physician. And for that, the physicians should earn the trust of the patients. And for that they have to conduct themselves in a certain manner. But this model is completely out of place in today's modern society, where values are different.

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## Emergence of Modern Bioethics

- Traditional image of a physician: honest, caring, not for money, dedicated etc.
- The traditional moral codes basically upheld this image.
- By 20<sup>th</sup> century traditional medical morality started facing problems.
- Several social, cultural and political factors.



By twentieth century, we can see that trend, the traditional medical morality started facing problems, due to the several factors. Historical, political, economical and social and several other factors. We have to see this context, a little more carefully to understand, How modern medicine has emerged. And how it demanded, this kind of an emergence demanded the emergence of modern bioethics as well.

Now, the conditions in which medicine was practiced has changed in the modern day. Because, the society was totally different. The Ancient societies were totally different and modern societies, with the emergence of capitalism, with the emergence of cities, factories and the lifestyle of people have completely changed. So, all these demanded a different approach to medicine and health.

So, this whole idea of public health has become really important with the emergence of cities, with the emergence of increased urbanization, where people started coming and living in one particular place, which was actually originally not their natural abode. So, this actually had raised a lot of issues, health problems and naturally to serve these problems, are rather to cater these to these problems, hospitals have emerged and a different set of issues also.

And now in, it is in this context, we have to see the progress in science, particularly rapid expansion of biological sciences, that this happened during the end of 19th century, particularly in the 20th century and now its again happening. Almost every day, there is a new invention. So, these kinds of rapid changes also have revolutionized, the main way in which, we practice medicine.

And now, new treatment methods evolved, advances in medical technologies. We have seen that, today medicine relies a lot on technology. A lot, where compare to our ten years back even, and the practice of science came into conflict with traditional and religious values and beliefs. So, this is a very interesting scenario, which we have to address. Because, many of these new technologies are enabled us to do several things, which we are not able to do earlier. The situation causes a lot of interesting ethical issues, a lot of interesting conceptual worries to the society. For instance, ventilators and I will be discussing that a little back.

Medicine became a more attractive profession in terms of material benefits. So naturally more and more people have started coming to medicine. See for instance, in traditional societies, if you take the example of India. Vaidyas, there are Vaidya families and mostly it was a family trade. And it was not a very lucrative trade. Society insisted that, Vaidyas should function or should deliver their duties without any real profit motives or for the sake of money. They should not be functioning for the sake of money.

So, now with the emergence of modern medicine, it is provided, physicians with a lot of new comforts, which early Vaidyas were not enjoying. So, naturally medicine has become a lucrative profession. There is a situation, the society that physician can earn a lot of money and fame in todays world. A lot of recognition from the society. So, all these have attracted a lot of people to medicine and medicine has become an industry today, which we have briefly examined in the previous lecture.

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## Problems with Traditional Medical Morality

- Conditions in which medicine was practiced changed.
- Progress in science particularly rapid expansion of biological sciences
- New treatment methods evolved: advances in medical technologies.
- Practice of science came into conflict with traditional and religious values and beliefs.
- Medicine became a more attractive profession in terms of material benefits.



Atrocities of the Second world war

The profession has become quite attractive in that way. And then, the atrocities of second world war is another very important historical event that created, that created a situation for the emergence of modern bioethics. Because, humanity now had to tackle certain issues, which it might inevitably face or it had already faced. So, you have to now resolve certain issues. So, we will be discussing that in this lecture.

Now let us see some of the important catalyst, that lead to the emergence of the kind of Bioethics, what we today know as modern bioethics. First of all, the emergence of Individualism in the society, this is a very interesting social phenomenon, where we can see that, after enlightenment, after around eighteenth century or so. In Europe, there is this phenomenon called the emergence of Individualism. Individual is becoming more and more important.

The class identities of individuals have become less and less important and the individual himself or herself has become recognized as a moral agent. So, this recognition of moral agency in each individual meet him or her quite significant and important in the society. So, this makes the individual almost at the center. It places the individual at the center of moral reasoning. So, it is the individual, who is more important. This kind of an Individualism, which emerged in the society as naturally influenced, the way in which ethics and moral reasoning developed during these following centuries.

And of course, the Nazi atrocities in Germany have created a situation, where humanity in general have to come together and think about certain situations. How to tackle certain situations. The Nuremberg code, the quite famous Nuremberg code were developed in this situation, as a response to these Nazi atrocities and this also had contributed heavily to the emergence of modern bioethics.

Now, the scientific and technological advancements have definitely a major impact in the way in which, medicine has developed in to, what it is today and also in response to that Bioethics. Illegal and unethical clinical trials, which had taken place and which even today take place in many parts of the world.

Sometime back, I remember there was this infamous incident, which involved the Cancer Institute of Trivandrum with John Hopkins University. They were in the news, that the many newspapers have come up with this argument, that they have conducted several clinical trials, which was unethical and illegal. So, such things happen in many parts of the world even today.


Though many of such incidents, we do not know, the common man really does not know, whether what is fact, what is truth. Because, media plays a very important role in such things. And what the media says is right or not, there is no way to determine, there is no way to decide and quite often specialist had to come into picture and give their verdict.

So, allocations, such cases, such incidents have also gone to the court. So, there is a quite interesting incident, which had happened in recent past in India is the case, where the unfortunate woman Aruna Shanbaug, was taken to the supreme court for with a plea for mercy killing – Euthanasia.

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## Important Catalysts

1. Emergence of individualism in the society
2. Nazi atrocities in Germany.
3. Scientific and Technological: Techno inventions and new developments in science.
4. Illegal and unethical clinical trials.
5. Global initiatives to arrive at commonly accepted norms and regulations.



And then, there are certain global initiatives to arrive at the certain commonly accepted norms and regulations. There are certain global initiatives like there is a WHO in today's world. So, they are all trying to arrive at some sort of a globally accepted guidelines, which would oversee the activities, that take place in the medical world. But, I don't want to call it universalistic bioethics or global bioethics. Probably I would use the word frenetic bioethics which I would be discussing in the following lectures.

So, now let us come to the real problem, Individualism, the emergence of Individualism. Now, as I already mentioned, morality became more and more individuals centric at some point of time in human history after enlightenment. Something around Eighteenth century in Europe and in many other places. Now, this process of the emergence of Individualism is taking place, with the breakdown of traditional family structure is like joint family system in India.

For example, now the joint family system in India is the hardly, it is breaking down. Instead, we have this, what we call nuclear families. So, this also is creating a situation, where individuals are becoming more and more important than families or communities and all that. So, individual should have control over his or her body is a kind of approach today most of us have.

There is a lot of focus, there is a lot of importance given to the individual in today's society. Again, protection of the individual from coercion of powerful institutions and governments. So, this is again this factor again underlines the importance of the some strong regulations and norms for protecting the rights of the individuals. So, there is a need that individuals need to be protected from the powerful institutions like hospitals. For example, in this context and also governments and many other institutions, which the modern society functions. So, that there is a strong morality which centers around the individual.

And again, several things happened that raised a concern for the protection of the individual. Several things happen inside the in the past few decades. There are social political and economic developments have happened, the way in which capitalism is developing today is also quite alarming that, whether it really takes care of the concerns of the individual, the emotional concerns, the other various concerns of the individual. For example, the philosophies of existentialism were a strong response to the kind of collectivism. Modern societies were emphasizing. So, the moral concerns or moral assumptions were strongly rooted in a conception of individualism.



**Emergence of Individualism**

- Morality became more and more individual-centric: individual should have control over his/her body.
- Protection of the individual from coercion of powerful institutions and governments.
- Several things happened that raised a concern for the protection of the individual: social, political and economic developments.
- The need for medical research: often involves harming the individual



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The need for medical research have already mentioned this in the beginning of this lecture. That it involves, it cannot avoid some sort of harming the individual, because human beings have to be there to participate as subjects of such experimentation and medical research. So, such experimentation might sometimes inevitably harm the individuals, that cannot be



avoided. On the other hand, if you say that no harm should be allowed, it is equal in to say that, there should not be any medical research, which is again not good for the society. So, somewhere we have to keep the balance. We had to allow medical research to happen, which involves minimum harm, so it is in this context we have developed certain concepts like the informed consent and all which will be discussing later.

So, now when you come to the domain of medical research, which is one of the most controversial domains, which calls for very strong ethical regulations and norms. Can you justify making human subject to dangerous experimentation. I have raised this problem, under what conditions, we can do this and what are the rights of the subjects. So, this is again another concern, the subjects to participate, who have consented to participate in a particular research, what rights do they have, can they terminate.

Can they say that okay from here after, I am not cooperating. I am not participating the research. I am withdrawing, which implies that the firm, which is conducting the research will have to bear a huge loss. But do the individuals participating have such right or whether this organizations, which conduct research also have certain rights. All such questions had to be deliberated upon, when we come to this issue.

How are they to be compensated. How are the subjects, who participate in this to be compensated. And what is the role in the entire process this domain as such is interesting because you know, if you examine traditional moral frameworks, which are available. For instance, Deontologism and Utilitarianism, both of them might have very different viewpoints about this.

Utilitarian is for example, might argue that, it is okay for one or two individuals to sacrifice their rights for the sake of the common good, for the sake of the society. On the other hand, the Ontologism values individual life. Deontologism asserts that, no individual should be treated as a means to an end. Every individual is an end in itself. So, in that way they hold quite opposite views. So, this itself is a confusing scenario presents a confusing scenario for us.

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**Medical Research**

- Can we justify making humans subject of dangerous experimentation?
- Under what conditions we can do this?
- What are the rights of the subjects?
- How are they to be compensated?
- Ethical theories have contradictory views: deontology Vs. Utilitarianism.
- Religious traditions often oppose this.



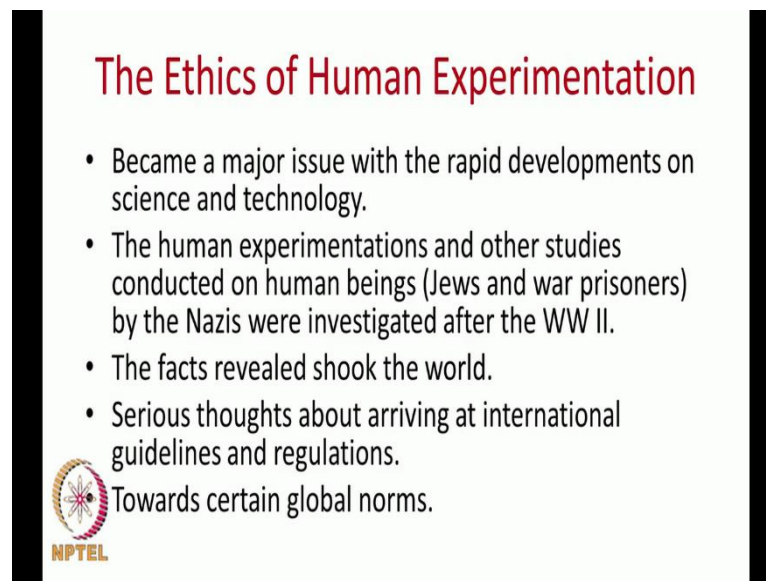
And religious traditions are of course often opposed, such a situation, where the using individuals are employing individuals as a research subjects. Because, they think, they say that, this might possibly be harmed him and any harm to individuals is to be avoided. According to many religious traditions. So, they also oppose this.

The domain of ethics of human experimentation is a very interesting domain and there is a history behind it. How this has emerged and we will have to see that history also to really appreciate, what are the major aspects of it. And now the ethics of the human experimentation has become major issue with the rapid development of science and technology.

Because, it is the new possibilities, which science and technology brought human society to do. That generated many interesting ethical dilemmas and problems. So, in that way that is very interesting. Again, the human experimentations and other studies conducted on human beings, for example, on Jews and war prisoners by the Nazis, were investigated after the world war two. So, this is a very crucial point in the whole history of the development of ethics of human experimentation. The Nuremberg code, what is come to know as Nuremberg code and many other things, which followed after that.


The facts revealed literally shook the world and that there are serious thoughts about arriving at international guidelines and regulations, which was not very easy. Because, as we know that the world, there are different cultures, with different cultural beliefs and customs. So, in such a world to arrive at certain common guidelines and regulations is not very easy. So, but that is a challenge, which many ethicist facing contemporary world and there is in this context, we are to actually contemplate. we have to think about moving towards certain global norms.

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### The Ethics of Human Experimentation

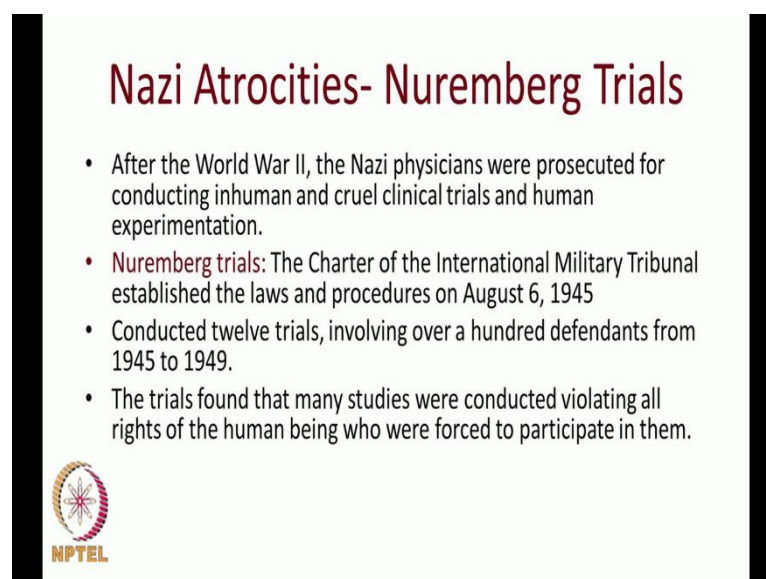
- Became a major issue with the rapid developments on science and technology.
- The human experimentations and other studies conducted on human beings (Jews and war prisoners) by the Nazis were investigated after the WW II.
- The facts revealed shook the world.
- Serious thoughts about arriving at international guidelines and regulations.
- Towards certain global norms.



Which are as I mentioned, some time back, frenetic in nature not universalistic in nature.


When, we are focused on the atrocities by the Nazis, that Nuremberg trials actually represent a milestone event in the emergence of modern bioethics in this way.

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### Nazi Atrocities- Nuremberg Trials

- After the World War II, the Nazi physicians were prosecuted for conducting inhuman and cruel clinical trials and human experimentation.
- **Nuremberg trials:** The Charter of the International Military Tribunal established the laws and procedures on August 6, 1945
- Conducted twelve trials, involving over a hundred defendants from 1945 to 1949.
- The trials found that many studies were conducted violating all rights of the human being who were forced to participate in them.



So, after the world war two, the Nazi physicians were prosecuted for conducting inhuman and cruel clinical trials and human experimentation. They have conducted, it is revealed that, they have conducted several in human experimentation on Jews and War Communal. And the Nuremberg trials the charter of the international military tribunals established the laws and the procedures on August Sixteenth Nineteen Forty-Five, for the Nuremberg trials.

And they conducted in total, 12 trials involving over 100 defendants from Nineteen Forty-Five to Nineteen Forty-Nine. And the trials found that, many studies were conducted by violating all rights of human beings, who were forced to participate in them. So, this whole thing called forced participation, the prisoners had no other choice. They were forcefully made subject to such experimentation conducted by the Nazi physicians.

And they killed Jews for an anatomical research and to study the effects of far that and treatments for high altitude conditions, freezing, malaria, poison gas, sulfanilamide, bone, muscle and nerve regeneration, bone transplantation, salt water consumption, epidemic jaundice, sterilization, typhus, poisons, and incendiary bombs. So, human beings were literally treated like animals by the Nazi physicians. And Euthanasia, they also have performed euthanasia on sick and disable civilians in Germany and other occupied territories. so, such inhuman activities, they are probed and actually gave the world an opportunity to think about strong regulations.

## Nuremberg Medical Trials

- Killed Jews for anatomical research.
- To study the effects of and treatments for high altitude conditions, freezing, malaria, poison gas, sulfanilamide, bone, muscle, and nerve regeneration, bone transplantation, saltwater consumption, epidemic jaundice, sterilization, typhus, poisons, and incendiary bombs.




Euthanasia of sick and disabled civilians in Germany and occupied territories.



Karl Brandt who was Hitler's personal physician who sphere headed the infamous human experimentation, during the trial.

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The wrongs which we seek to condemn and punish have been so calculated, so malignant, and so devastating that civilization cannot tolerate their being ignored because it cannot survive their being repeated


**Robert Jackson**  
Chief Prosecutor for the United States at a war-crimes trial

So, this is a quote from Robert Jackson, who was a chief prosecutor of the United States at a war crimes trial. He says, I quote the wrongs, which we seek to condemn and punish have been so calculated, so malignant and so devastating, that civilization cannot tolerate their being ignored because it cannot survive their being repeated in court. The Trials finally arrived at certain codes. It was a first attempt by any international committee to formulate a generally accepted code of conduct governing the ethical aspects of human research. So, in that sense, the Nuremberg codes are a milestone event, that has happened in the history of medicine, Western medicine or modern medicine.

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## Nuremberg Codes

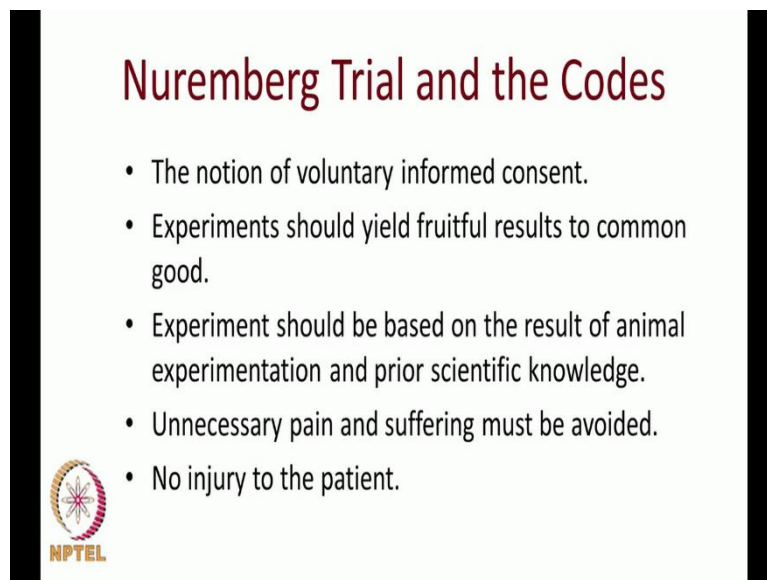
- The first attempt by any international committee to formulate a generally accepted code of conduct governing the ethical aspects of human research.
- The trial finally came up with a code of ethics setting out 'standards to which physicians must conform when carrying out experiments on human subjects.'
- Nuremberg tribunal judgement laid down 10 standards to which physicians must conform when carrying out experiments on human subjects.



The trial, finally came up with the code of ethics. Setting out standards, to which physicians must conform, when carrying out experiments on human subjects. And there are around, laid down 10 standards, to which physicians must conform, when they carry out experiments on human subjects.


I will be very briefly mentioning these codes. I am not going to elaborately discuss them here. But, the idea behind each code will be highlighted. The first one is the notion of voluntary informed consent is underlined. The individual has the right to decide, what to do about, what to do with his body. So, this is something, which is very important as far as the Nuremberg codes were concerned. Which was later on, of course, modified a little bit by the Helsinki Declaration and all. Experiment should yield fruitful results to common good.

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## Nuremberg Trial and the Codes

- The notion of voluntary informed consent.
- Experiments should yield fruitful results to common good.
- Experiment should be based on the result of animal experimentation and prior scientific knowledge.
- Unnecessary pain and suffering must be avoided.
- No injury to the patient.



We have seen that many of the experiments, which the Nazi physicians conducted was not done with careful deliberations and scientific analysis or study. They just did it to see, what will happen. But now they, it is insisted that, it should be done only if we quite sure that, it will yield fruitful results to common good. Now experiment should be based on the result of animal experimentation and prior scientific knowledge. So, this is a presupposition for any human experimentation now. Unnecessary pain and suffering must be avoided. So, this is very important all wherever possible suffering and pain should be avoided and no injury should to the patient should be part of the experiment.

Risk must be weighed against expected benefit. As I already mentioned, what we cannot avoid certain amount of risk. So, it must be very carefully weighed against expected benefit. Then again protect the experimental subjects against even remote possibilities of injury disability or death. Experiments should be conducted by qualified professionals. Participants has the right to withdraw at any point of time.

So, this is another very important point, which is trust by the code, that they have the right. Because, you know the participants are human beings, who are now subjects have total control over their bodies. So, they have the right to withdraw from the experiment at any point of time and the scientist also should stop the experiment at any stage.


If he thinks that, the continuation of the experiment is likely to cause harm to the people, who are involved in it. So, these are the general framework. This is the general framework of the Nuremberg codes, which several other bodies modified later. Now the Declaration of Helsinki is another very interesting milestone event that has happened in the history of modern bioethics.

The Third General Assembly of the World Medical Association at London in October, Nineteen Forty-Nine, adopted the international code of medical ethics. This code actually stipulated the duties of physicians in general. So, the relationship between physician and the patients, physicians and physician, other physicians. So, basically concentrating on the physicians. What the physicians responsibilities are in general. So, this was a focus of this code.

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## The Declaration of Helsinki (DoH)

- The Third General Assembly of the World Medical Association (WMA) at London in October 1949 adopted the International Code of Medical Ethics.
- This code stipulated the duties of physicians in general, to patients and to other physicians.
- In 1964, the World Medical Association formulated a set of ethical guidelines for physicians and other participants in medical research: the Declaration of Helsinki.



And in Nineteen Sixty-Four, the WMA formulated a set of ethical guidelines for physicians and other participants in medical research, which is famously known as the Declaration of Helsinki. Most of the codes, which are formulated by the Nuremberg code was repeated here or reasserted here with slight modification.

And now, this is another very unfortunate incident, that has happened in human history in modern human history. And that too, it is happened in the United states of America, where a lot of research happens. Where a lot of scientific and medical research happen. This is known as the Tuskegee Study of Untreated Syphilis. And unfortunately, which caused a lot of harm to the Blacks in America.

So, what is happened was the US Public Health Service and the Tuskegee Institute in Alabama conducted a study to record the natural history of Syphilis. And here a medical study that monitor to discover the effects of untreated Syphilis. The purpose of the study, itself raises a lot of questions because it wants to study the effects of untreated Syphilis and human beings are employed for this.




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## Tuskegee Study of Untreated Syphilis

- The US Public Health Service and the Tuskegee Institute, Alabama conducted a study to record the **natural history of syphilis**.
- A medical study that monitored to discover the effects of untreated syphilis.
- To study the effects of syphilis in the bodies of the African-American males who are in the second stage of syphilis.
- A race-based experiment: conducted on African-American men: Initially 399 black men with syphilis and another 201 black men who did not have the disease.

The study lasted for 40 years.



And this to study the effects of Syphilis in the bodies of the African-American males, who are in the second stage of Syphilis. So, in that sense, we can say that, it was a race-based experiment. No whites were included in the study. Only blacks, only African-American men. Initially, Three Hundred and Ninety-Nine Black men with Syphilis and this is another very important fact, Two Hundred and One Black men, who did not have the disease. They were also part of the study and the study surprisingly lasted for 40 years.

So, let's have a close look at the, what is happened during this Tuskegee study. It was from the very outset; we can say that an illegal and unethical study. No informed consent was obtained. None of the participants knew, what they were subjected to or what was a situation or they were not given proper information about, what is happening to them and what is the situation.

For taking part in the study, the subjects receive free medical exams, free meals and burial insurance. That's the only thing, they have been benefited. Subjects were administered penicillin but told that they were received medical treatment for bad blood. And in Nineteen Seventy-Two, the public came to know about the study and it was stopped following a public outcry.

When the news came in the press, there is a public outcry against the study and the government was forced to stop it. But now, we will see the, what has happened afterwards.


Many people, some of the survivors filed a lawsuit. They have approached the court. And the Public Health Service and the physicians for violating the rights of the patients involved and the study violated the constitutional rights of the participant. As it knew, that the participants had Syphilis and it did not treat them properly.

So, this was the very serious violation of the rights of the participants. First of all, they study the rights of the participants were violated, without telling them, what exactly is happening to them. And they were not treated, in spite of the fact that, medicine was available to treat them.

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## Tuskegee Study

<p style="text-align: center;"><u>Illegal/Unethical Study</u></p> <ul style="list-style-type: none"><li>• No informed consent was obtained.</li><li>• For taking part in the study, the subjects received free medical exams, free meals, and burial insurance.</li><li>• Subjects were administered penicillin, but told that they were receiving medical treatment for bad blood.</li><li>• In 1972: the public came to know about the study and it was stopped following a public outcry.</li></ul>	<p style="text-align: center;"><u>Path of Legal Action</u></p> <ul style="list-style-type: none"><li>• Some of the survivors filed a law suit.</li><li>• the Public Health Service and the physicians for violating the rights of the patients involved.</li><li>• The study violated the constitutional rights of the participant, as it knew that the participants had syphilis and did not treat them.</li><li>• In 1973, the participants won the case and were awarded \$10 million compensation.</li></ul>
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In Nineteen Seventy-Three, the participants won the case and were rewarded Ten Million Dollars compensation. So, this again has generated a lot of interest in this whole domain of ethics of experimental research.

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## Issues Highlighted

- No proper information: The participants were given the impression that they were being properly treated for their diseases: but they were not.
- No informed consent.
- Risk: many died due to lack of treatment.
- Racially motivated: Only African Americans and no whites were part of the study.
- There were no rules and regulations governing the Study.



So, the issues highlighted was, there was no proper information, participants were given the impression that, they were being properly treated for that disease. But they were not.

So, this has again, become another very important guideline, that proper information should be given. So, and then the consent from the participants said, there was no informed consent taken from this participant of the Tuskegee study.

And risk, many died during, due to lack of treatment in this process. Many of these deaths could have been avoided, that is a very sad scenario, that it was not that was inevitable or unavoidable. They could have easily avoided because treatment was available during that time, but it was not done. And it was more important or rather the most important of violations is that, the study was racially motivated. Only African-Americans and no Whites were part of the study. And, there were no rules and regulations governing the study.

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## Regulating Medical Research

- To protect the subjects
- To hail human rights
- To underline the value of informed consent
- Move towards the central principle of modern bioethics: autonomy
- Making the individual at the center.



So, in this context, there is a lot of interest, there is a lot of emphasis on regulating medical research worldwide, not only in United States but everywhere. So, there is an attempt to arrive at some sort of global norms to protect the subjects. To hail Human Rights.

To underline the value of informed consent, move towards the central principle of modern bioethics autonomy, which we will be seeing, examining in some of our later lectures. The Concept of Autonomy, which has become, almost like a central theme central concept in modern bioethics. So, we can see that, there is a move towards that and making the individual at the center, which I have already mentioned.

So, this is the broad context of medical research, ethics of medical research, which we have examined and now we will go to, we will examine another certain another very important factors the rapid developments, that have taken place in science and technology. And the way in which, they have being integrated to the practice of medicine. And the kind of ethical issues, they create, they generate. So, we will discuss that in the next lecture for the time being, Thank You.