

# Scientific advancements in medical technology



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Scientific advancements

<u>Scientific advancements</u>	<u>Pros</u>	<u>Cons</u>	<u>Ethics and morals</u>
Cardiac MRI This is new technology created to give still and moving pictures of your heart and the major blood vessels that go in and out of your heart. It gets pictures of	<ul style="list-style-type: none"> <li>• Being able see things inside the body that normal MRI or any other form of technology can see.</li> <li>• Cardiac MRI is a safe and non-invasive test and can be used</li> </ul>	<ul style="list-style-type: none"> <li>• The machines that carry out this test are very expensive and this will result in limited numbers of the machines.</li> <li>• If people are claustrophobic, this machine would be very</li> </ul>	Anyone with claustrophobia can't use this machine due to the machine being a very small tube which the person lies in this would result in reacting badly and not being able to get the scan

the heart instead of frightening picture  
 beating to invasive as you are because  
 see the tests like placed in an they need  
 structure Radiation. enclosed to be pulled  
 of the • This can space. out as they  
 heart and reduce • MRI images can't deal  
 how it is the can become with being  
 functioning number of distorted if in a small  
 . Cardiac diagnostic there is space.  
 MRI is used procedure issues with Another  
 to s they the ethical  
 diagnose would machine issue is that  
 and assess have to resulting in anyone that  
 lots of go misdiagnosi has a tattoo  
 diseases through. s to a cannot  
 including • The tests patient. have a MRI  
 coronary are just as • MRI scan  
 heart precise in scanners because  
 disease, detail as are affected there could  
 heart valve looking at by be metal in  
 problems the movement, the tattoo  
 and actually can't be resulting in  
 cardiac tissues. used to severe pain  
 tumours. • The test investigate around the  
 The cardiac can show things in tattoos.  
 MRI can the soft the mouth

Another ethical issue of the Cardiac MRI is that if there is anyone that is obese. Then there is bigger MRI machines for them but the bigger machines have a weaker magnetic fields.

also help to explain results of others tests like X-Rays.

tissue structures in the body.

because if you sneeze this will alter the picture.

3D Printers  
Cornell Scientists  
created an artificial

- They can print anything that can help with
- Certain body parts might not work when they are in

The cost of these printers means that anything to

ear that research the body do with  
they in labs for causing medicine  
created in anything. that patient like  
a lab. This • The to become personalisin  
ear looks printers infected or g the  
and works can even die medicine to  
like the customize from not a person,  
real thing. anything having the will be  
They have that they right body affect by  
also want part that how much  
printed printing. works. money the  
blood • This is the • The 3D patient has  
vessels, cheapest printers at and  
and printed way to the moment whether  
skin cells produce can only they can  
directly to several create afford to  
a wound. items. items of a have the  
• 3D certain size medicine  
printing and made, this  
can anything result to the  
produce a over that poorer  
product size cannot people to  
within be made. not get the  
several effective  
hours. treatment.

Another ethical issue is whether the printers are safe. This also is very important when the printers are being used in medicine and developing organs, or anything that has to go into the body and to make sure that this is safe and it will work and won't go wrong inside the

body and  
kill the  
person that  
has the  
certain  
body part.

Gene  
therapy  
this is  
where a  
person's  
genes are  
taken out  
of the ear  
and  
changed  
before  
being put  
back into  
the body  
this helps  
to fight  
disease.  
This has  
been

- It can eliminate and prevent any hereditary diseases.
- Genetic disease can be cure by replacing genes with another one.
- Gene therapy can

- There is side effects to gene therapy for the patients.
- Any multigene that a person has such as heart disease or high blood pressure these are caused by different effects of

Gene  
therapy  
costs a lot  
of money to  
get this  
could result  
in only the  
wealthy and  
this could  
result in not  
effective  
treatment  
for the poor  
as they  
won't have  
enough  
money to  
be able to

effective in treating patients that has leukaemia or other different blood cancers.

quieten a gene e. g. someone that has HIV but it hasn't developed into AIDS, scientists could save the person pain by using gene therapy to quieten the disease before it gets worse.

- It can erase diseases in a

variations in do this. many genes. These genes are difficult to treat effectively using the gene therapy.

- The gene therapy is very short this means that the patients may have to undergo many rounds of gene therapy.
- The immune systems

Another ethical issue with gene therapy is that people will use the gene therapy to enhance the human traits such as height and intelligence to how ever much they want, this can be used for the person to get a higher social status and



person  
 and their response to  
 future the gene  
 offspring therapy will  
 so it have an probably  
 doesn't effect that more  
 also help reduces the money as  
 one gene they will  
 generatio therapy's get a good  
 n it helps effectiveness job and get  
 all s and this more  
 succeedin could be a money.  
 g potential  
 generatio risk.  
 ns.

3D printers are used for many things including medicine to guns and other illegal items. Scientists have created a new 3D printer inspired by terminator 2. This means that it will work 100 times faster than the normal 3D printer and can make items in minutes rather than hours. Many people are happy because technology is being advanced. " Freaking awesome tech. This will also allow shapes to be designed and built that are impossible with current methods." Said by Funcrew on the guardian website. This shows that many of the public are having positive thoughts about the new technology that is being produce and how it is shaping the world and how we are using the technology in everyday life, it also shows how this new technology will allow

us to do things we couldn't before. 3D printing is used in many different ways and one is being a part of the dental industry and being used by dentists so that they can poke and prod and them and to show the patients what is going on in their own mouth and explain procedures that they may go through. Many people are not understanding why we need a more expensive models just to show patients procedures. " Do they need a new, presumably more expensive, model just for the purpose of explaining procedures to patients?" said by Pollik. This shows that although many people have positive thoughts the other half of the public have negative thoughts and don't understand why the technology is being used and the technology we use now is just as good and is not as expensive as the new technology coming onto the market. These negative attitudes make people jump onto these attitudes and start to criticise the technology and result in the technology not getting brought, however the positive attitudes may make celebrities and other famous people to accept these technologies resulting in a lot of people wanting this new technology and making the sales go very high up. The debate about 3D printers at the moment in who actually buys these as if it is criminals who buys these to make guns and other illegal items, this could mean in the criminals running wild and being able to make many, many items in just a week, this could cause a lot of problems throughout the world. Whether as the 3D printers that are used for medical advancements or in certain business industries are useful and therefore there is no debate on using 3D printers in these terms, it is just when the 3D printers are not used for good things, this then results in the society not looking the new technology when it is being used for bad things. These issues that the public has about the 3D printers are not important

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enough to stop any development of the 3D printers. This is because the 3D printers are more or less being used for the health and wellbeing of the public in the NHS with medical issues and dentistry issues and also in the different industries of business, and are only ever rarely used by criminals for illegal ideas. 3D printers are used a lot to help people and explain to people things that they can't see themselves. People's perception of 3D printers can be improved by the government and businesses taking the 3D printers of the market to the public and just letting businesses or the NHS being able to buy these this would result in criminals not getting a hold of the 3D printers and the public can stop worrying about what they will do with them. People's perception would also change about 3D printers if they cost a bit less to buy as they know that the NHS and other businesses will be buying these things for experiments and the public know that buying expensive equipment in the NHS means that they won't have money to do other things as they don't have money as it is.

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