**Professor Andrew McEvoy**

I'm Andrew McAvoy.

I'm Professor of Neurosurgery.

I'm the clinical lead for Neuro Oncology and Epilepsy surgery at the National Hospital at Queen's Square.

And so I specialized in the management of lots of forms of brain tumour and the management of epilepsy.

Gamma Knife is a fantastic treatment that we have as neurosurgeons, which allows us to give up very focused doses of radiation.

So I guess it's been extremely helpful in neurosurgery because traditionally we've done very big operations for certain pathologies and of course we cause lots of collateral damage getting to those targets.

And Gamma Knife allows us to give very focused radiation to specific parts of the brain depending on the pathology, OK.

So commonly we would use it for some malignant tumours and lots of benign tumours as well.

And the beauty of it is that it had because it comes from lots of different sources, it the dose falls out, falls off very quickly.

And so the normal brain tissue that surrounds it gets very little radiation.

And some of those areas might be the areas that you need to move the body or to speak or to see.

And so if we have a technique where we don't have to damage any areas to get to the abnormality, we want to remove most commonly A tumour say and that's obviously extremely helpful to the patient because they don't get the damage that we cause on the way to removing the target.

We have an idea of the different types of tumours or the different types of pathologies we're trying to treat in the brain.

And Gamma Knife is more effective against some rather than others.

So we don't recommend it for everyone.

We choose the patients very, very carefully as to who we think is going to be well treated with Gamma Knife.

So we have teams where we bring together all the tumour specialists, all the neurosurgeons that do Gamma Knife, the oncologists, the radiologists, the pathologists, we bring everyone together and we choose the patients who have the best outcome in terms of using Gamma Knife for their particular type of tumour.

Some patients with malignant tumours will respond extremely well to Gamma Knife.

They can have many lesions in the brain, and we treat all the lesions in the brain, and they will sometimes disappear and do very, extremely well.

But it's not just malignant tumours that we use Gamma Knife on, we use it for relatively benign tumours because even slow growing tumours in the brain can cause a wrap or around the brain can cause problems going forward.

I think the concept of malign and malignant in brain tumours can be very, very difficult.

OK.

So I think traditionally what people mean about malignant tumours is that they're worried if you have breast cancer or a lung tumour or a bowel tumour that they spread around the body and some of the ones that are lower grade transform into higher grade tumours going forwards.

And so the concept of benign and malignant is difficult and more complicated than in other forms of tumour when you're considering brain tumours.

And so we really try to identify tumours very early, to treat them early and to give patients the best possible outcome from all these lesions because they all can cause problems going forward.

And it's about identifying the ones that are going to cause the problems quickest, I suppose that we set about treating first.

Now there are tumours like metastases, like meningiomas, like acoustic neuromas, where that's a very, very good plan because the tumour is very well contained.

So you can give a very high dose to the tumour, and you want to give very little dose to the surrounding brain.

There are other brain tumours most commonly, I guess the tumour we see most commonly are things called gliomas, where we know that the tumours spread much further than you can see on the scan.

And so in those situations, Gamma Knife is exactly what you wouldn't want to do because you actually want to give radiation to a much bigger volume to the areas where you know those cells are, but you can't see on the scan.

And they're the classical ways that standard radiotherapy is given for those types of abnormalities.

So we're very careful about the sorts of tumours that we treat with Gamma Knife.

My role as a neurosurgeon in seeing patients that might need Gamma Knife often for brain tumours are that patients would be referred in because there aren't very many Gamma Knife units, we're very specialised centres.

So patients are often referred in from wide parts of the country to see if their particular pathology is a good treatment for Gamma Knife to be used on.

OK.

If it is an appropriate treatment, then what would happen is that we would send you an appointment to come and see me.

I would then see you in the outpatient department with your relatives.

We'd talk through what the problem was, show you your scans, we would discuss what the options are.

And clearly there's always options that you know from doing nothing to having standard radiotherapy to trying different forms of chemotherapy.

There might be lots and lots of different options or with advantages and disadvantages.

And we present all those options to you and talk about how Gamma Knife might be useful in this situation, how what it might help with, what the risks might be.

And then we let you decide as to what you would like to do.

Obviously, we're there to guide you, but at the end of the day, where consent is all about the patient making their own decision as to what they would like to do, we get always give patients time to think.

So we let everyone go home from clinic.

We usually give them contact numbers to contact us if they got more questions or to come back with an answer to us.

If they choose to have the treatment, then they would be contacted by the Gamma Knife unit at a time that's convenient for them to come up for their treatment that day.

And then they would see us in the morning, and we'd go through all of the procedure.

So they'd see me, we chat through it.

We go through everything that was going to happen that day.

Then we fit the frame and then they go and have their scan and the planning and the treatment, and we see them all the way through the day.

We're always here for them.

If they have more questions or more concerns, it's very important that they understand the pros and cons of what's being proposed for them.

That Gamma Knife is a fantastic treatment for certain abnormalities in the brain.

And if they have any trouble making decisions or they have any complications afterwards, we're always there to answer those and to see them again, to guide them through the process.