

American Brain Tumor Association Webinar

Quality of Life: Managing Symptoms and Finding Support

>> Welcome to the American brain tumor Association webinar series. Thank you for participating in today's free educational webinar. We apologize for the technical issues we had and thank you for joining us. Today's webinar is Quality of Life: Managing Your Symptoms and Finding Support. It is presented by Kathleen Lupica MSN, CNP. Please note all lines during our webinar today are muted. If you have question you would like to ask type and submit it using the question box and the control panel on the right-hand side of your screen. Ms. Lupica will answer questions at the end of her presentation.

Tomorrow you will receive an email asking you to evaluate this webinar. It is a very brief survey. Please take a few moments to share your comments. Your feedback is important to us as we plan for future webinars. Today's webinar is being recorded. It will be posted to the ABTA website shortly. Registered participants will receive the webinar link in a follow-up email message once the webinar is available. Let's pause for a moment so we can begin our webinar recording here. The American Brain Tumor Association is pleased to welcome you to our webinar series. Our webinar today will discuss Quality of Life: Managing Your Symptoms and Finding Support.

My name is Vincent Rock, patient services program manager at the American brain tumor Association. I'm delighted to introduce our speaker today Kathleen Lupica, MSN CMP. Ms. Lupica has worked as an advanced practice nurse in neuro-oncology at the Cleveland Clinic brain tumor center since 1991. She has facilitated the Cleveland Clinic brain tumor support group since 1991. She works with two neuro-oncologists in the outpatient department. She has spoken on many topics to regional and national audiences including our 2015 national patient and family conference and has been a coinvestigator in terms of FDA long-term effects of brain tumors. Thank you for joining us Ms. Lupica. You may now begin your presentation.

>> Good afternoon everyone and I apologize for the difficulties but we will try to keep the slides and sink. We will start by talking about quality of life. Next to slide.

>> Quality of life with your diagnosis everything changes. From the minute you find out about the brain tumor, just like it says here before I had breast cancer I used to worry about getting a cold. It changes your life forever.

>> It's going to have an effect on family and friends around you.



>> The initial shock for most people and after the shock, it's normal. It can last from days, to weeks or months. Everyone is different. The big thing is immediate changes need to be made. Patients describe it as being unable to swim and being dumped in the deep end of a swimming pool without a life preserver. I did go hear someone speak and they impressed me very much. Her husband wrote a book and while her husband did not have brain tumor he had a serious head injury and was in a coma for 42 days. She recalled she got the call when she was at Disneyland with her children. She said it felt like being on the Tower of terror. I've never been on the Tower of terror ride but I guess it takes you up and drops you down and then takes you up and drops you down again. She said she will like she was riding that ride over and over again.

>> So some patients describe it as a roller coaster with the ups and downs and good days and bad days.

>> What do you do and what can we do? We all wish we had a magic wand we could wave and make everything better. That does not happen. There is no cookbook recipe and everyone is different so what works for one person may not work for another. What we say is you may not be able to change the diagnosis, but you can change the prognosis or how you respond to it. You might not have the choices you want but you do have choices.

>> We will talk about maintaining hope. Hope is a very powerful force. Everyone has a right to maintain hope. I go back to Lee Woodruff because when she recalls the early days when her husband was in the coma, she said everyone who came into the room had nothing but bad news for her. No one held out any kind of hope to her at all. She is still very angry about that and says no one has a right to take away your hope. I think that is a powerful statement.

>> We talk about maintaining hope and that is realistic hope or cautious optimism. Trying to find that nice balance between giving patients false hope or being overly pessimistic is always a struggle for those of us in the healthcare profession. We know it's very important for patients to maintain a positive outlook because the patients that do generally will do better in the long run.

>> With quality of life there are many definitions. It will change over time and what you may think today is your idea of quality of life can change over time. It will be different one for -- it will be different for everyone and everyone has a different idea about what your quality of life should be. The patient will have one idea and family may have another. Friends may have different one. The healthcare team might have different one also.

>> Some of the definitions that I like are functioning as near to normal. The struggle to maintain life as it was. A term you hear a lot is creating a new normal and things cannot be like they used to be but you need to move on and make a new normal. That your desires are met despite problems caused by the illness. You cannot change what happens but you can change how you respond to it. And making the best of the hand you are dealt.



>> The most important definition is what the patient's idea is of what their quality of life should be.

>> We will talk a little bit about managing symptoms and unfortunately tumors create symptoms and symptoms of fact your quality of life.

>> Symptoms can be temporary or permanent. They are not always fixable and I make that clear to patients but we will fix what we can. They will range from mild to severe and they can change over time.

>> Some of the symptoms that brain tumors cause our cognitive problems which are problems with thinking and memory. They also cause speech problems which include talking and understanding speech or being able to read or write. They also cause mobility problems. These symptoms are generally treated with therapy and what we call assistive aids like Keynes or walkers or anything like that. Sometimes medication also maybe include so that could include cognitive therapy, speech therapy, occupational therapy also.

>> We like to sometimes revisit therapies so if a patient has not done there be for a while and they are having problems, maybe we will send them back for a refresher course. If you are struggling at home, we can send out a therapist to the home to assess for safety, if there is equipment we can get to help you out, or maybe just what we call gait and balance training that we do a lot when a patient is having trouble with mobility.

>> After that we will talk about symptoms which include headaches and pain, fatigue and sleep disturbances, seizures, and the deep vein thrombosis.

>> First of all managing symptoms, many tumor related symptoms the best managed by medication. That's the last thing that the patient wants to hear.

>> Most patients -- medications have side effects. Here it shows a tumor and the patient takes shark cartilage and the tumor is gone but now we have a side effect we were not expecting.

>> The issue with medications with many of you with you were suddenly on a lot of new medications. Some of you may have never taken the medication before your diagnosis. You are learning to juggle multiple medications and coping with all the side of tax and that's why I put Alice in Wonderland to take one pill to make you smaller one pill to make you call.

>> Many brain tumor related symptoms are best treated with temporary steroids and that helps decrease brain swelling and makes the symptoms better.

>> Never take a pill that has more side effects than you have symptoms and that's true with steroids unfortunately. They do have side effects.

>> So the big ones are increased appetite and weight gain.

>> Also in some media or trouble sleeping -- insomnia or trouble sleeping.



>> Changes in the body appearance from steroids. They make you pop up in your face and get fat in other areas.

>> And multiple other problems they can cause especially if they are used for a long period of time. That can include changes in vision and can cause cataracts, fragile skin and easy bruising, stretch marks, they can weaken muscles and bones, make you more sensitive to infection, one common thing we see is oral thrush which is a white coating in the mouth. Patients on steroids can have stomach ulcers. It can also cause problems with mood changes and personality changes.

>> High doses of steroids for a long period of use usually make the side effects worse. It will also take longer to get off the medication. The higher the dose and the longer you have to be on them, the more the side effects and the harder it is to get off of them.

>> What do we do? We tried to use the lowest dose possible that works. We tried to use it for as short a time as possible. We tried to get you off of them as soon as possible. We have you take more in the morning so it does not affect your sleep. We avoid taking it later in the day. We put you on medication to prevent trouble with stomach ulcers.

>> The other problem we run into with you have to be very careful about how you take people off of steroids. There is something called steroids withdrawal, if we try to take the steroids a way too fast the patients can get sick. I tell them it can feel like you got run over by a truck or you were coming down with influenza. You can have headaches, nausea, sometimes vomiting, aches, loss of appetite, and if that happens when you're steroids are being adjusted you need to let your doctor know. We can back up and slow down and get that to work better. It doesn't mean you won't be able to come off the medication, but that we have to do it more carefully.

>> Next we will talk about headaches.

>> The kind of headaches that worry us are ones that are worse in the morning when you get up, they are no longer being relieved by over-the-counter medications like aspirin or a leave or Advil, they keep getting worse, they wake you up from sleep, and you have other symptoms along with headaches like nausea, vomiting, trouble with your vision, speech problems, or weakness in arms and legs.

>> With headaches we generally like to try to get by with over-the-counter medications first. We will use temporary use of steroids because if they are tumor related headaches, the steroid should help. We tried to avoid narcotics if at all possible.

>> Briefly we will talk about emotional distress. That is also an issue and that includes depression, grief, stress, personality changes, anxiety, and it's best treated with therapy, whether a psychologist, counselor, or psychiatrist and also maybe medication if you need it. That is usually how we address that. You need to talk to your doctor about these distressing symptoms because there are things that can be done.



>> The next issue was fatigue.

>> What we learned about brain tumor fatigue and there have been a lot of studies done on this is that it is real, it's different than a normal person's fatigue, it is often ignored because it is not life-threatening.

>> However it severely impact your ability to function. It is not always relieved by sleep. It is not always related to activity. It's not the same as a normal person becoming fatigued. I think we tried to get family members to understand that you know how it is to be tired but this is different.

>> What can you do? There is no easy fix but exercise believe it or not will help. Keeping hydrated and eating properly will help. Tried to relax or do relaxing things. Meditation helps for some patients. Try to cut back on stimulation and don't let too many things get you. Things like yoga work for some people. If needed we sometimes will look at using some form of medication like stimulant medications such as Ritalin or Adderall or antidepressant medications. That sometimes can help with fatigue and increase your ability to think more clearly. It helps with depression. There have been trials that say American Ginseng 1000 mg twice a day was helpful for patients. My experience is that patients that try it don't see a huge miracle, but some patients to feel it helps and generally it does not harm anything. Definitely stick with what your doctor recommends before trying that.

>> What else can you do about managing fatigue wax --? Don't ignore it. Conserve your energy. Set limits and priorities. Determine what is most important to you and balance your activities. Plan things for when you feel best. When you are tired try to rest. Know that things might have to be flexible and you may have to occasionally make adjustments. Learn to understand what your limits are and that is one of the biggest problems that patients have. They overdo it one day and pay for it the next. Ask for help. Try to keep normal sleep patterns. Sometimes that means learning how to do things a little bit differently. You might not be able to keep up the pace you use to keep up before the brain tumor.

>> As far as sleep disturbances, we're talking about trouble sleeping or sleeping too much. What can you do? Tried to avoid taking long naps during the day. Tried to have routine. Tried to avoid stimulants in the evening like caffeine or alcohol or anything that will keep you awake. Spend less time in bed except for sleep and that is also what sleep doctors tell you. The bad is for sleeping and sleeping only. Don't lay in bed and read or watch TV unless you have no other choice. The bad is for sleeping and you should be up and not -- and sitting in a chair for reading or watching TV. Keep as active as possible. Try to avoid using sleep medications. If necessary there is what has been identified as a hangover effect. You can feel foggy or fuzzy the next day after taking a sleep medication. Obviously if we need to use them, with two -- we do but try to use them only as needed. Try to keep your eyes open and see if there are other causes for the sleep problem. Do you have sleep apnea? Is there a medication you are taking that is causing the problem?

>> Now we will talk about seizures.



>> 10% to 40% of patients with brain tumors will present with a seizure. It is a good thing because it does lead us to find the tumors sooner. Up to 60% of patients will have a seizure at some point. Seizures are devastating to patients and their families. Unfortunately the best way to treat seizures is why -- is with anti-seizure medication.

>> What kinds of things will cause you to be more likely to have a seizure and what things should you try to avoid? Obviously if you don't get enough sleep, if you skip meals or are not eating well, if you miss a dose of your medication, alcohol can lower your seizure threshold so drinking alcohol or too much alcohol can make you more likely to have a seizure. Over exerting yourself in any way and also stress, even good stress, can cause someone to have seizure. Sometimes being sick and there are a lot of medications that can interfere with your seizure medications including over-the-counter medications and an asset's. -- Antacids. People don't realize that and be sure to tell your doctors what medications you take. With antacids you should avoid taking those within an hour before or 2 hours after you take your prescription medications because it can interfere with the absorption of your medication.

>> When we talk about seizure precautions with patients it depends what kind of seizure you have although anything that impairs your ability to function is going to possibly have your doctor put you on driving restrictions at least until you have been seizure free for at least six months. Some states mandate that and others it is up to your doctor. You should avoid dangerous activities like climbing up on ladders or swimming alone or even for some patients bathing alone and not having someone nearby. You should not operate dangerous equipment which is an issue for patients who have certain occupations. And I just made mention of driving restrictions and there was also count for motorcycles. I had a patient tell me how he was so excited he went out on his motorcycle over the weekend, and I had to break it to him that driving restrictions include motorcycles. As far as bicycles, that is a conversation to have with your doctor. It's possible if you have someone with you, you can ride a regular bicycle.

>> We talk about what you should do in the case of a seizure. It's best until you get it established with your doctor to let your healthcare team know of any seizure you have. If it's the first one you have ever had or you don't know if it was a seizure or not but something happened and you are not sure what it was, you should talk that over with your doctor. If they change in any way, or they start happening more often or last longer, you should be letting your doctor know.

>> When do we get worried? If the seizure does not stop. Although it feels like for patients and family during the time of the seizure that it last forever, most seizures will generally be over in a couple of minutes. If the seizure is not stopping, you need to thinking about going to the emergency room or calling 911. That the patient becomes unconscious especially of having breathing problems that is time you want to seek emergency care. If a second seizure occurs pretty quickly after the first then you should also seek emergency care.



>> Families always ask what should I do when they have seizure? The biggest thing is to stay with the patient and to try to prevent any injury. Tried to observe what is happening because it's helpful to us to have you tell us exactly what happened during the seizure. When patients come out of a seizure they could use emotional support. And I want to say that ABTA has a sticker you can get for free from them that can stick onto an appliance that gives seizure first aid tips. A lot of people get those and have them at home or put that in the work place because coworkers might want to know if you have seizure what they should do.

>> Some medication issues are we would like to avoid generics because sometimes they can be off by about 30%. With the healthcare climate nowadays we basically have to learn to live with generics because most insurance companies have made the name brands almost unaffordable for most patients. Another thing we look at and that is what we call enzyme inducers which are some of the older seizure medications that go through the liver. It interacts with other drugs and are a little bit more difficult to regulate. It means it could interact with steroids as well as if you happen to be on chemotherapy. And then the whole issue of what we call preventative use of seizure medication.

>> They have a lot of side effects and some of them, it says we should step down your prescription Mr. Adams because were getting a few side effects. There can be a rash and it can be severe. Many cause fatigue and also some mental impairment, people say they feel foggy on the medication.

>> Ideally what we like is to get by with one drug, no seizures, and no side effects. Sometimes that is difficult to accomplish. I have done a prior webinar all about living was seizures so certainly up that is something you would like to learn more about, that is one resource you could use.

>> I will talk quickly about deep vein thrombosis. That is blood clots and the numbers are all over the place but somewhere between 20% and 80% are patients with brain tumors will get a blood clot at some point. The trouble is that there are symptoms but many patients don't get the classic symptoms that they are taught to watch for. If you get symptoms it's usually like swelling usually on just one side, and you can get a little swelling from steroids so if the swelling is the same in both legs it's not as concerning. If it is just one leg that swells it's more concerning. And patients have a weak side and it's very often the weak side that the blood clot occurs on. Some patients can get pain or tenderness in the calf and especially if you start noticing color changes in your feet. The problem with a blood clot in the leg is if it decides to move it will go to the lungs and that is much more serious. If at any point you suddenly start having chest pain or trouble breathing, you should call 911 or go to the emergency room.

>> Some risk factors that make you more likely to get a blood clot, the older you are puts you at a higher risk, the more in mobile you are, if you have leg weakness, right after surgery is a big time where risk is high, and we usually treat it with blood thinners. Sometimes patients can have blood thinners for a variety of reasons that we have to put something in call date filter -- called a filter. It's like an angiogram and they put the filter in through the groin into a large pain and that keeps the blood clot from getting to the lungs. It does not fix the blood clot but keeps it from getting to the lungs.



>> Let's go back to quality of life. Something that has become a new term is something called survivorship. Basically what we used to hear from patients is if I've only got a couple years to live, why do I need to worry about my blood pressure or high cholesterol or what I eat? We're trying to get patients to look at themselves as survivors and have that mindset and determination that I will try to survive this. And given that tried to shift your focus. Patients need to keep up with primary care doctors for general health so we aren't missing any problems like diabetes or anything else. They need to keep up on regular medications. Health promotion and things all of us should do with exercise. There was a trial done with patients with malignant brain tumors and it showed that patients to exercise did better. In that study the amount of exercise they were talking about was equivalent to brisk walking for 30 minutes five days a week. We recommend that to our patients if at all possible. You need to maintain nutrition and eat well like everyone should and keeping hydrated with fluids.

>> The important thing is you need to talk to your healthcare team. Here is a Snoopy cartoon that I like. It says Snoopy, this has been a bad week. What are you doing when everything is hopeless? Snoopy gives a kiss and then she says that is good advice. Sometimes we can't fix things as much as we would like, but we just try and it's important you share things that are important to you.

>> What is important to you? It's different for everyone and we can't begin to guess what is important to you. We may think one thing is important like you want to get off your medications, that might be your last concern and something else is bothering you. If you don't let us know what is important, we will not be going in the right direction. Talk about your symptoms, side effects of your drugs, and be honest about the medications you are taking or not taking. If you are prescribed the medication on your list but you have not been taking it, it's important you be honest and say you were not taking it and why. If you added supplements we are happy to talk about that too. Always feel free to ask questions.

>> The things that we like to focus on is to fix what is fixable. When I sit down with the patient and they tell me the problems they are having, I tell them we can't fix everything but let's figure out what we can fix. We need to look at all medications because many times it's a medication that is new or a combination of them that causes a problem. I also say to patients you could have 10 or 15 symptoms, and I say let's focus on the ones that bother you the most and see what we can do about that and go from there. We also tried to keep ourselves from trying to fix too many things at once or make too many changes. We will put you on this pill for fatigue and another pill for depression. When you do too many things at once and it doesn't work, then you don't know what was right and what was wrong. I always tell patients, let's try not to make too many changes at once. And as we talked about earlier, I keep reminding myself to revisit therapy and sending patients back to physical therapy if they are struggling with getting around, or having physical therapy come out and check out the home to see if anything can be done to make your life easier, even cognitive or speech therapy. If you are having difficulties reading, thinking, or talking, we can send you back to a therapist to see if they can help.

>> There is help. This is Marmaduke and it says I didn't realize how many friends you had until you got sick. I think that is what people don't realize is you should tap into your resources.



>> Look for resources and be willing to accept help. Every time you reach out to someone, you will learn something. They will help you in some way. You need to realize people on the other side feel pretty useless and you can help them feel useful by reaching out to them. If you are not comfortable outright asking for help, just ask for advice. Just say, I really need your advice. What would you do? Do you know someone who can mow my lawn? Sometimes people will come through for you. Support groups both in person and online can be helpful. A lot of people tap into community support and short -- church or religious support.

>> I got this cartoon from a colleague about support groups and it says, we are all angels but made with just one wing and the only way to fly us is to embrace each other. I thought that was cute.

>> This says everything these days is .com this and .com that and I can't stand it anymore. And he says I know a website that can help you. Here are some websites that can help you. The American Brain Tumor Association along with others like cancer.org and cancer care and virtual trials.

>> And ABTA has additional support in terms of online support group called connections. They also keep a list of support groups by state on their website if you are looking for a support group. We have a peer mentoring program for patients and caregivers called community connect. So tap into some of those resources.

>> I will finish up with a couple cartoons that I always like to use. One is yesterday is the past, tomorrow is the future but today is a gift. That's why we call it the present.

>> And this one says we cannot direct the wind but we can adjust our sails. At this point I will turn it over to the American Brain Tumor Association and they will handle the questions.

>> Thank you very much. Ms. Lupica will now take questions. If you have a question you would like to ask please type and submit it using the question box and the webinar control panel on the right-hand side of your screen. We will look and see who has a question for us. Ms. Lupica, could you possibly address anything you have seen that are nonmedical solutions for some of the emotional challenges you discussed like sadness and grief? How have you seen people address this without medications?

>> That's a very good question. We tried to get people to at least think about getting help in terms of counseling. That could be at any level of support they are comfortable with. Sometimes there are social workers within your cancer team that are more than willing to sit down and try to help you sort through your feelings. Many centers will have psychologists. Psychologists do not prescribe medication. Their sole purpose and role is to work with patients into counseling and try to figure out how you can handle things. And also families and friends, although I know you feel like you are tired of going to your friends and family and feel like a burden to them. I encourage people to use something called



neuropsychological testing that can be done. It's a battery of tests that tried to pick out -- these things are driven by a lot of psychological components like stress, depression, and anxiety. Sometimes you are coming in for multiple reasons and sometimes doing formal testing called neuropsychological testing with the neuropsychologist and they come up with some great ideas. Sometimes I find things to decrease your stress which in turn can make you less depressed. Things like that. I hope that answers the question.

>> Thank you very much. Another question we have is patients and caregivers abdicate for themselves or the patients. Maybe they feel the doctors are not addressing their symptoms in the way they would like or they are may be intimidated or no their doctor doesn't have enough time to speak to them which comes up a lot. What advice you give to patients who want to advocate for themselves and drive the point home that they need attention addressed to their symptoms in order for the quality of life to improve?

>> That's a good question. There are a lot of people on the team and it may be talking to one of the nurses, it could be an RN or nurse practitioner or a nursing assistant and anyone else who is part of the doctor's team. You might have a social worker available to you and sometimes they are a good person to start with because they will hear you out and give you direction. You need to go to a member on the team you are working with that you feel comfortable talking to. That is probably the best way. Get that does not work, and I hate to say this, but if the relationship with the particular doctor is just not working for you, the last case scenario is that you might want to think about switching to another doctor that is a better fit for you. Sometimes patients and doctors just don't click. We understand that and don't get offended by it. When the patient says I would like to see someone else, it happens. You should never feel bad about asking to maybe see another doctor.

>>> Great. Thank you so much. We have another question about complementary medicines. I get a lot of phone calls from people asking about medications that are complementary. I'm curious to know what you have seen people use as complementary medications as an adjunct to pharmaceuticals and things like steroid medications or pain medications?

>> I am sure you guys have webinar on this, but it's another whole subject. Number one, most doctors and healthcare providers do not have a problem with patients using complementary therapy. I want patients to understand that most people don't have a problem with it. But there is so much out there Mac and what's always been a problem with especially things like supplements and vitamins is it's extremely difficult to run a nice clean clinical trial to say how much they are really helping or not helping. The other issue is because they are not regulated as strongly as prescription medication, it's very difficult to know what you are taking. You might not know if what you are taking contains what you think it should contain. Those are some issues we deal with, with complementary therapy. I think you should feel comfortable discussing with your doctor for the most part there are very few things that we have a problem with patients taking. We usually say there is not an issue unless it's something that will



affect your blood counts. A few supplements can do that which is why you should let your doctor know if you are using them. If it will affect blood counts or in a -- interact with other medications, but sometimes it's difficult to identify things that work well. Things I see patients using in some say they work or not our melatonin for sleep instead of a sleeping pill. Some people think they work and others don't. Some people are trying ginseng because there's a little bit of evidence on that. After that, I've seen a little bit of everything. There's nothing I can think of right now that jumps out a lot that I am seeing people use. It goes in waves where they will see something on the Internet about a particular supplement and how well it helps this that or the other. You will see people taking it all of the sudden but most patients end up not taking it for the long run because they don't see benefits. That something you could do a whole conversation on in itself.

>> Okay. Thank you very much. I will remind listeners that you can still submit questions by typing them in the question box. We have time for a couple more questions. You mentioned something earlier at the beginning of the presentation about hope and I'm glad you mentioned that because it's so important to anyone who is going through any kind of treatment. I am wondering if you have noticed any kind of qualitative difference among patients who cultivate a more hopeful, positive attitude versus those who might not and might be suffering and embracing the suffering which I see sometimes? Have you seen anything like that?

>> If you ask anyone in the field, and the healthcare professional dealing with patients going through any kind of life altering diagnosis, and that can be anything like multiple sclerosis, Alzheimer's etc. and not just brain tumors, is that clearly those people who can maintain a sense of humor can remain up beat clearly seem to do better. Not that it is a cure or but people hold on to accepting it but shaking themselves up and getting up and keep going. There are some people who get themselves devastated and barely functioning just based on their anxiety or depression and the situation as a whole. It makes for everyone around them so much more difficult to help them. It has a snowball effect. If they are down and out and responding to people, then everyone around them goes in the same direction and it's a downward spiral. Sometimes you have your moments when that happens and you can't help it. Most patients can get themselves at least back on an even keel and try to get back into moving forward. When I see people struggling, that's when I say would you consider thinking about sitting down and doing counseling? Sit down with someone outside like a psychologist or social worker or a nurse you feel that you click with, and just try to get someone help direct you.

>> Okay. That is all the time we have for today. Thank you for joining us and takes one again to Ms. Lupica for her wonderful webinar presentation. For more information on brain tumors to help patients and caregivers process the diagnosis, understand a new and difficult vocabulary, and access resources to help make informed decisions call the ABTA CareLine at 800-886-2282. Let's pause for a moment to conclude our webinar recording.



>> We invite you all to continue to check back at our website www.abta.org for the ABTA's library of free on-demand webinars that feature experts like Ms. Lupica addressing a range of brain tumor topics from treatment options and tumor types to diets and coping with the diagnosis. Our next webinar will be sponsored by Accuray and will be on advancements in radiosurgery. It's on Thursday, October 22 from 1:00 until 2:00 Central Time. Radiosurgery has significantly changed the way neurosurgeons have managed brain tumors over the last three decades. Sign up for this interactive webinar presented by Steven D. Chang M.D. from the Department of Neurosurgery at Stanford University School of Medicine. Dr. Chang will take a comprehensive look into advances in radiosurgery to treat brain tumors. He will define and describe radiosurgery treatments and devices. He will also focus on common indications that side effect for radiosurgical treatments as well as explain the expected responses to radiosurgical therapy among different tumor types. This webinar will include an interactive Q&A session with Dr. Chang. This concludes our webinar. Thank you for joining us and please be sure to complete the evaluation survey you will receive by email tomorrow. You may now disconnect.

