

Dr. Jason Barnes:

Hey there. Welcome to another episode of ENT in a Nutshell. My name is Jason Barnes, and today, we are joined by Dr. Richard Gurgel, and we'll be discussing Bell's palsy. Dr. Gurgel, thanks so much for being here.

Dr. Richard Gurgel:

Thank you, Jason. It's a real pleasure to be included in this program.

Dr. Jason Barnes:

I do want to lead with just saying that the American Academy of Otolaryngology does have clinical practice guidelines for Bell's palsy of which you contributed to, and so a lot of what we'll be talking about today kind of stems from that guideline, and we'll be bouncing back and forth referencing that. Dr. Gurgel, can you tell us how a patient with Bell's palsy typically presents?

Dr. Richard Gurgel:

Well, thank you, Jason, and that's a good question. Bell's palsy, overall, it's a relatively rare condition, but I think in otolaryngology and certainly in various subspecialties, we see quite a few of these patients. One of the key factors with Bell's palsy is just really defining what it is and what it isn't. Bell's palsy, really by definition is a rapid unilateral facial nerve paresis or paralysis, and by rapid, we mean within 72 hours, so it's a fairly acute onset when someone will develop this. It's unilateral. It will involve all branches of the facial nerve, and it can either be partial, which would be paresis, or a complete paralysis, or complete dysfunction of the facial nerve.

Dr. Jason Barnes:

When you're evaluating these patients, what are some questions that you might ask them, or maybe some other symptoms that they might be experiencing apart from just the facial paralysis?

Dr. Richard Gurgel:

That's a good question. I think the history is, and a physical exam, a complete history of physical is really critical to your evaluation of these patients. One thing with Bell's palsy is we call it an idiopathic facial nerve paralysis, and to make it idiopathic or of unknown origin, it's really incumbent on a clinician to make sure they've ruled everything else out, and so the other questions that I like to ask, just with a complete history, I like to know the timing of the onset and make sure that it is an acute onset. We get worried when a patient comes in and they've had months of gradual paresis, and that's not a Bell's palsy, so the timing is definitely important, onset duration, if it's happened before, if there were any inciting events, a trauma, and that could be having a, had a recent surgery, especially in otologic surgery, or a car accident, or any sort of head trauma. Other symptoms that we ask about if they've had pain, any associated hearing loss, dizziness, ringing in the ears, pressure in the ears, alteration of their taste, if they've had any other treatment for the condition as well. Those are some of the key features of at least the history of the present illness.

Dr. Jason Barnes:

How often do you see something like hyperacusis, or it gets so bad that they have dry eye, or pain around the ear? These are some symptoms that could be related to facial nerve. Do you see that often?

Dr. Richard Gurgel:

I'd say we definitely see it often enough that it's worthwhile asking a patient just to be thorough. Oftentimes, a patient will just say that they're more sensitive to sound. When we ask about their hearing, they may describe a hearing loss because they feel like their ear has some pressure, and in reality, what's probably happening is just their stapedial muscle is not working because that muscle is innervated by a branch of the facial nerve, and so they can have that hyperacusis, sound sensitivity. They can have a little hypoesthesia of the ear canal. There's a small contribution of the seventh cranial nerve to a small patch of skin in the ear canal, and they can develop a little bit of anesthesia in that area as well, so I'd say we do, we definitely see that hyperacusis. Dry eye can certainly come for two reasons, if they can't close their eye and if they've lost that nerve signal to the lacrimal gland, so there are a couple of reasons they can have dry eye.

Dr. Jason Barnes:

Who's the typical patient who presents with Bell's palsy from an epidemiology standpoint? Who do you typically see?

Dr. Richard Gurgel:

It tends to be a diagnosis that affects those who are in middle age or adults, I would say. We do see it in children, although it's quite rare. Children tend to do better overall, but it's really a disease that we see in middle age, anywhere from 15 to 45 years old, but I mean, it can really affect anyone along the age spectrum. There are certain groups that are definitely at higher risk. There've been a lot of epidemiologic studies showing women who are pregnant, those with diabetes, upper respiratory ailments, compromised immune systems. Those are all patients who are potentially at risk.

Dr. Jason Barnes:

When you evaluate these patients on physical exam, can you walk us through some of the specific things that you're really paying attention to?

Dr. Richard Gurgel:

I think with any complete physical exam, we start with the patient's vital signs and just make sure that they're overall healthy and well, and then we do a complete head and neck exam, but really focused in and around the ear and the facial nerve, and all the cranial nerves. I like to look at the ear with otomicroscopy, and what I'm looking for is any evidence of blisters or vesicles around the ear. That would be important just to differentiate it from Herpes zoster oticus or Ramsay Hunt syndrome, and I'll look very carefully at the ear, the ear canal, making sure that the ear canal is open, the tympanic membrane, looking for any retrotympanic masses. I'll palpate around the ear, I'll look for any evidence of skin lesions, and that'll be in the history, past medical history as well, making sure that they don't have a history of cutaneous malignancy. I will feel the parotid, and then a very detailed facial nerve exam, looking at all of the different branches of the facial nerve.

When looking for Bell's palsy, you want to make sure it's affecting all branches because it's really a peripheral or distal lesion versus a forehead sparing lesion, which of course, would be more concerning for a central vascular issue, a stroke, and really, just completing that part of the head and neck exam, using a tuning fork to check their hearing, and then afterward, getting a hearing test as well.

Dr. Jason Barnes:

If I had to ask you the top three or five things that are the biggest red flags to, "Hey, this isn't Bell's palsy," what would you say those are?

Dr. Richard Gurgel:

That's a really good question, Jason, and I think that's one of the key takeaway lessons I would say in any discussion on Bell's palsy is that all that palsies is not Bell's, and it's a really important thing to look at, so the key red flags would be, I would say the timing of the onset. If it's a gradual, slow paresis, then it's probably something else. It's not a Bell's palsy, and the main thing I worry about is a cutaneous malignancy with perineural invasion, or any tumor of the parotid gland or infratemporal fossa, so a mass, slow onset, some sort of feature that makes it atypical for Bell's, if it's recurrent, if it's progressed where just one division is affected, and then another division is affected at a later date. Those to me would be red flags.

Dr. Jason Barnes:

Moving on to pathophysiology, what is the cause of Bell's palsy?

Dr. Richard Gurgel:

The short answer is we don't know exactly, but the prevailing theory right now is that it's a viral etiology likely due to a viral reactivation, and because of that viral reactivation, the nerve becomes [adenomatous 00:08:06]. The facial nerve is unique, in that it's the only cranial nerve that exits the skull base and goes through an air-filled space before it enters soft tissue. That's due to the tortuous course of the facial nerve out of the internal auditory canal, and then as the geniculate ganglion makes its turn, the facial nerve goes through the middle ear. Because of that, I think just from an embryologic standpoint, there is a very tight arachnoid band around the facial nerve, so the etiology, going back to that, when the facial nerve swells, as opposed to other cranial nerves or any other peripheral nerve, when the facial nerve swells, it's in a very tight, bony tunnel with an arachnoid band, and it really has no room to swell, so it effectively becomes strangled or constricted, and there is a nerve block typically at the labyrinthine segment, which is the most narrow segment in that transitional area from intracranial to extracranial, and that's where we believe the conduction block happens, so the final common pathway, whatever causes it, eventually there's nerve swelling, and because of that, a conduction block, but it's likely a virus that's reactivated that begins that pathophysiology.

Dr. Jason Barnes:

One of the questions I like to ask is about the natural history of this disease. I imagine someone with a unilateral facial paralysis will want to do anything they can to fix it, but what happens if a patient decides, "I just want to do nothing and see what happens"?

Dr. Richard Gurgel:

Well, and that's, it's very important for the clinician and those of us who have experience following these patients, you're absolutely right, this can be incredibly distressing for a patient to all of a sudden have an acute facial nerve paralysis. There are the functional considerations, just the inability to close the eye or to get complete oral competence, but in addition to that, there are certainly cosmetic implications and there have been many studies looking at the psychological impact of a facial nerve paresis. Our brains are hardwired to really engage people by their facial expression and use that as a really important cue for communication, and so when the facial nerve is not working, it's very distressing for an individual, and even people who communicate with them. One of the important roles we have as

clinicians, I think is reassurance, letting an individual know that if they have Bell's palsy, they have an excellent prognosis, that things will recover. You mentioned, "What if someone just wants to kind of wait and see what they'll do?," and I suspect we'll talk about treatment in a moment, but there are very effective treatments with a good, strong evidence-base, and so patients usually should be initiated on those treatments, but in general, the good news is most people do get better.

There's a small subset of individuals who are very severely affected and who can be identified with various testing, but for the most part, if you take all comers, most are going to do very well, especially if they present with an incomplete paralysis. If it's just some mild weakness, those patients uniformly do very well.

Dr. Jason Barnes:

When you evaluate these patients, you're thinking Bell's palsy, but of course, Bell's palsy is in a sense, the diagnosis of exclusion, so what else is on your differential diagnosis here?

Dr. Richard Gurgel:

This is where, really a lot of the other history cues or what you find on physical exam becomes very important. I would say the other things on a differential is we just go down the categories of disease. Neoplastic is very high on my list because that's when you don't want to miss if someone has a cutaneous malignancy or parotid tumor that's malignant, infectious causes as well. We think the underlying causes infectious for Bell's palsy, but there are other infections like herpes simplex that may cause similar types of neuropathies, Ramsay Hunt syndrome due to herpes zoster, Lyme disease. In areas that are endemic for Lyme disease, particularly in the Northeast, I know this is one that is really very high on the differential, and Lyme disease has a couple of different characteristics. It's oftentimes bilateral, and there will oftentimes be a history of either travel to an endemic area or a tick bite.

When we start going down the list of more rare etiologies, but things that should be considered, I think about sarcoid, especially if it's bilateral or someone has a known history of autoimmune disease. Guillain-Barré is a potential on the differential, Melkersson–Rosenthal, if they have tongue swelling or facial swelling, fissures in the tongue. Just within the last year, I saw a patient that came in with bilateral facial nerve paralysis. Very typical for Bell's palsy, was acute onset, one side, and then the other side followed a week later, and that patient had syphilis. Actually, we tested him for treponema, and that's something we don't see as often, fortunately, but it's still something to keep in mind on the differential.

I think just going through those broad categories of disease, neoplastic, infectious, autoimmune, even congenital, drug-related, traumatic, certainly, if someone's had a temporal bone fracture, that would be a cause of facial nerve paralysis, that's not Bell's palsy.

Dr. Jason Barnes:

Moving on to workup, this is kind of part of the meat of the guidelines that I think is most helpful. When you evaluate a patient with Bell's palsy or who you presume to have Bell's palsy, can you tell us about the workup and what to do, and maybe more importantly, what not to do?

Dr. Richard Gurgel:

Really, your history and physical are the hallmarks of the workup, but then, after you've done that, in addition to that, I think as clinicians, we want to do something. It's distressing for a patient when they come in, and hard to let them know that, "We're not going to do any imaging or any lab testing," but I think that's really the key. One thing that came out of the guidelines that I think is really important as the two-key action statements about a recommendation against routine laboratory testing and routine

imaging, and the worst use of the word, routine is deliberate there. This is if you take all patients who come in, most will not need this additional testing. Now, certainly, there is room for a clinician's judgment if, for example, someone's been in endemic area for Lyme, then testing for Lyme is a very reasonable thing, but this is for most patients, if there's not any key feature of the history of physical, then there's really no lab testing that's indicated, and there's no imaging that's indicated for the acute presentation.

Now, typically, what we'll do for a follow-up protocol is we'll have these patients come back in about three months just to make sure that there's sign of recovery, and if there's not at that point, that's where imaging may play a role and you'd be looking for, really the whole course of the facial nerve to make sure that there's not any neoplasm, or if you can see inflammation, but that is not for the initial evaluation. That's just down the road, if someone has not recovered as you'd expect.

Dr. Jason Barnes:

To talk a little bit more about imaging, I understand it's not recommended upon initial presentation. However, if an MRI was obtained at initial presentation, what would that typically show and what does that tell us about the disease process?

Dr. Richard Gurgel:

We do occasionally, we do get images on these patients because so often, they present in an emergency room situation, and someone there may want to be ruling out stroke, so we do actually get a fair bit of imaging, sometimes just as being a referral provider. What that looks like on an MRI is you'll typically see inflammation of the facial nerve, and it's often distal to the labyrinthine segment or involving the labyrinthine segment. It's important to look at the other side as well, because the, particularly, the geniculate has a rich blood supply, and oftentimes, you'll see some physiologic enhancement of the entire course of the facial nerve, so you're really comparing the two sides, but typically, you'll see increased enhancement around the nerve.

Dr. Jason Barnes:

Another thing that I wanted to talk about within the workup is electrodiagnostic testing such as ENoG or EMG. Can you speak to when this is helpful and how we use the results that are obtained?

Dr. Richard Gurgel:

We, I believe in electrodiagnostic testing, I think it does make a difference, and where we do this, so when we talk about electrodiagnostic testing, there are really two tests that we're talking about. One is the ENoG or electroneuronography, and this is a stimulated facial nerve exam. Electrodes are placed, just surface electrodes, overlying the muscles of the face, and then the facial nerve is stimulated at the main trunk, and the results of the affected side are compared to the results of the unaffected side, and so then, it gives you an objective measurement of the degree of dysfunction of that nerve. Then, the other test that we do is an EMG, and this can either be done with surface electrodes or needle electrodes. What you're looking for there is just any voluntary electric activity.

You can also see various electrical activity patterns like fibrillation potentials, for example, which would be a poor prognostic sign. Those are your two broad categories of electrodiagnostic tests. When I like to use those, and I think where the role for these tests, where the role is, is if someone comes in with complete facial nerve paralysis, so these tests are not necessary. If a patient has incomplete paresis, they really don't give you that much information. It's for those patients who are severely affected, they have no motion on physical exam, they're a complete six out of six on the House-

Brackmann scale, so no twitching, no observable facial nerve movement. Then, these tests become quite important because they can give you good prognostic information.

If an ENoG is greater than 90% out on the affected side, then that patient is in a category where they're at risk for a poor or a bad outcome. Even when those patients recover, the numbers that will recover to normal or near normal facial nerve function are going to be smaller than those patients who come in with just paresis. We use the ENoG greater than 90%, and we also use the EMG if there's no voluntary electric activity, then those would be at least for prognosis. In our practice, we also use that as a potential indicator for those who may be surgical candidates for decompression of the facial nerve.

Dr. Jason Barnes:

Let's move on to treatment. We'll talk about decompression here in a second, but what is the mainstay treatment for folks who you presume have Bell's palsy?

Dr. Richard Gurgel:

By far, the strongest evidence-base is for oral steroids. There is really very solid evidence, randomized double-blind placebo-controlled trials, looking at steroids and the benefit of oral steroids, there's really very, very strong evidence to support that. That was a strong recommendation in the clinical practice guidelines, and there are a number of well-designed studies that have supported that. The sooner the better to start oral steroids, ideally within the first 72 hours, ideally within the first two weeks. Really, the sooner the better.

I typically recommend Prednisone 60 milligrams once a day for seven days, and then a rapid taper after that. It's important to communicate with patients even after they finished their steroid taper. They will most likely still have some weakness, but the goal is really to reduce inflammation and swelling as much as possible in that critical time period.

Dr. Jason Barnes:

When you prescribe this level of steroid, how do you counsel patients on the side effects and other things to consider with high-dose steroid use?

Dr. Richard Gurgel:

It's a relatively high dose, and I do want to make sure the patient's not diabetic. If they are or even if they aren't, I'll mention that it could definitely affect their blood sugar and they may have to monitor that more closely, it'll increase their blood sugar. I talk to people about the effect it may have on their sleep cycle. I do talk to every patient that I give steroids to about the potential risk of avascular necrosis of the femoral head. I've never seen that.

It's a very rare reaction to steroids, but it's devastating enough that I want people to be informed about that, and I ask them if they have any hip related pain, that they let us know, but those are really the main things for a short course of steroids. Short courses are tolerated pretty well. This is not the sort of thing where I think you have to really start worrying about bone density or changes in fat deposition. It's really just for a week at a high dose, and then a rapid taper.

Dr. Jason Barnes:

Do you put these patients on PPIs?

Dr. Richard Gurgel:

Yeah, that's a good question. I think it's a very reasonable thing to do. I have seen one patient who developed a gastric ulcer while on steroids, and so it's definitely something that I'll tell patients about, and I think it's a reasonable thing to do.

Dr. Jason Barnes:

One thing that I noticed in the practice guidelines is there's a difference when we think about treating pediatric patients. How do you approach a child who presents with Bell's palsy in terms of oral steroid therapy?

Dr. Richard Gurgel:

Kids are remarkable in their regenerative potential, and all of the evidence suggests that the pediatric patients do quite a bit better if you compare them to adult patients with Bell's palsy. I do select to recommend steroids and I'll oftentimes use the dose of two milligrams per kilogram per day of Prednisone as at least a guideline. Sometimes in a larger child, you may find that you're actually giving more than you would for an adult, and so I like to just use some clinical judgment and taper that, also knowing that kids in general will do better, so you may not need to be quite as aggressive with the dose, but I think it's still reasonable to treat them with steroids just because there's such strong evidence to support it.

Dr. Jason Barnes:

What's the role of antivirals both alone as treatment, which I think we've already kind of ruled out, but also in combination with steroid therapy?

Dr. Richard Gurgel:

In a lot of these double-blind placebo-controlled trials, there was an antiviral-only arm, and there's really no evidence to support antivirals alone. The question then becomes, "Do you use them in combination with an oral steroid?" To answer that question, antivirals are, they have very low side effect profiles, they're relatively inexpensive. I think their risk of adding them on is really quite low, and there's enough evidence to suggest that combination therapy with oral steroids may provide some additional benefits. If it were me, and in my practice, my recommendations are, that I do add an antiviral at a fairly high dose.

Typically, it's Valacyclovir at 1,000 milligrams TID for seven days, but those antiviral medications are very well-tolerated, and I think it's worthwhile just, even if there's a very small amount of benefit, we do add those on in combination therapy.

Dr. Jason Barnes:

How do you counsel patients on eye cares while they are experiencing a paresis or paralysis?

Dr. Richard Gurgel:

It's very important to evaluate the eye. Even if someone still has some facial nerve function, if they're in a House-Brackmann IV or greater category, by definition, then they're unable to get complete eye closure. Yeah, that's having an eye complication, it's always a really troubling thing because it's usually totally preventable, and so the way we counsel those patients would be to use aggressive moisturizing of the eye, typically a gel or a lubricant at night. Lacri-Lube is one that we oftentimes recommend. Then, during the day, just replenishing the film or using drops as often as needed.

There's really no downside to using those. Artificial tears work very well. We will recommend a moisture chamber as well, and that is just a clear plastic film that has a sponge typically around it to create some sort of a watertight seal, and they can use that other 24 hours or just while they sleep, and then taping the eye as well. I like to recommend Transpore tape. I think it's very gentle on the skin, and we typically recommend that they take the lower lid and pull that up to close the angle around the lateral canthus. That just tends to get the eye a little bit more narrow, and so that they can get better closure of the eye.

Dr. Jason Barnes:

The clinical practice guidelines also mentioned acupuncture and physical therapy. Do you recommend this, and how do you counsel patients who might question or ask you the question, "Should I pursue these treatment modalities?"

Dr. Richard Gurgel:

In the clinical practice guidelines, both acupuncture and physical therapy were no recommendations. I think it's important just to clarify the terminology of the clinical practice guideline, a no recommendation is not the same as a recommendation against. A no recommendation just means that there's not enough evidence to support a recommendation for or against, so with acupuncture and physical therapy, I know I have patients that are definitely interested in what we would term alternative medical therapies. I don't have any problems with that. I don't think there's any harm to it. There may be some patients who benefit from it as well, so it's not something I routinely recommend, but I'm also not opposed to it if a patient wants to try those things.

Dr. Jason Barnes:

Now, moving on to surgical decompression. I think this is an interesting topic especially in the neurotology world. How do you decide which patients you offer surgical decompression? How often do you offer this, and what is your surgical approach?

Dr. Richard Gurgel:

Surgical decompression, it's a great topic I think to discuss, it's always controversial, and there are different feelings about it, but this really developed out of the work of Ugo Fisch in Switzerland. Looking anatomically at where the conduction block is with the facial nerve and that segment that's the most narrow at the labyrinthine segment, really, the only way to access that and maintain hearing is via the middle fossa craniotomy approach. That approach allows a surgeon to be able to see the entire course of the facial nerve through the eye internal auditory canal, the labyrinthine segment, and the geniculate, and if you unroof the middle ear, also the tympanic segment, and that's really where the pathophysiology is likely happening. There are a number of studies looking at transmastoid decompression of the facial nerve, and I've always been a little wary of that, just because I feel like it does not really address where the underlying pathophysiology is with the constriction. There was a Cochrane review in 2013 that looked at surgical decompression, and the end result of that was that there was not enough evidence to support its use.

One of the challenges of that or limitations of the Cochrane review is that they included transmastoid decompression, and that's really a different surgery, so I think with the decompression, it's via middle fossa approach. This study by Gantz et al was really the landmark study in 1999, published in *Laryngoscope*, that really opened up this field for discussion. Dr. Gantz showed that in a multi-institutional trial, those individuals who had severe paresis, as defined by greater than 90% paralysis on



ENoG and no EMG activity, if you take those high-risk patients and decompress them within 14 days, their facial nerve outcome is much better than those who are treated with medical therapy alone. We've replicated that study, and our results were very similar as well. We used those same criteria.

Someone had to meet the surgical criteria with the electrodiagnostic studies. They had to be able to undergo a middle fossa craniotomy, and that, we typically reserved for patients less than 65 years old, but in our results, about 70% of just that subset of patients were able to achieve a House-Brackmann I or II, facial nerve outcome, which is much higher than we'd expect if you just looked at those patients who get medical therapy. There is controversy around this, I think for many reasons. If you take any condition that naturally improves, you always have to ask the question, "Did my intervention actually make a difference?" One of the challenges we have with our surgical literature is that we have a very difficult time. It's impossible and unethical to randomize a patient population to a sham surgery group, so we just don't do that, and that's one of the challenges with getting high-level data and evidence in any surgical literature.

I think from the case control studies that have been done, there's very good evidence to suggest that it works and that there is benefit. One of the challenges as well is a patient has to be referred to a center that has experience with a high volume of middle fossa craniotomies. Typically, that volume is achieved in centers where there are a lot of acoustic neuroma surgeries done for middle fossa. That's really where I think a surgeon develops the technical ability to do this surgery safely, but obviously, some of the risks of that approach are a craniotomy surgery. There is some risk to hearing, although a hearing loss is should be very low and really shouldn't happen.

That would suggest a violation of the cochlea, and typically, that won't occur when the surgery is done properly. Permanent facial nerve process or injury to the facial nerve is always a concern as well, but those are some of the technical aspects of the surgery, the risks, the benefits. If I were to have facial nerve paralysis and I've met that high-risk category, I would want to find someone I think who could do the surgery, but I know that is controversial and there are a lot of very good neurotologists who feel like medical therapy alone is adequate.

Dr. Jason Barnes:

We've kind of talked around this for most of our episode, but can you speak to outcomes and prognosis both for medical therapy, but also for surgical therapy, and maybe some of the longer term issues that patients experience?

Dr. Richard Gurgel:

The outcomes, and this is where it's helpful to look at different subpopulations of patients with Bell's palsy, but the outcomes in individuals who present with a paresis and not a complete paralysis, the outcomes are excellent. Most over 90% will achieve a House-Brackmann I or II, facial nerve outcome. In those individuals who present with a severe dysfunction or complete paralysis, medical therapy alone. Still the majority, probably 50, 60% will achieve a House-Brackmann I or II, and we believe in the individuals who do have a decompression, that number can go up to about 70%. The long-term sequelae of a severe facial nerve paralysis, almost everybody gets better to some extent, but the issue is just ongoing facial nerve weakness.

We definitely see a lot of synkinesis as well in those individuals who is very severely affected. As the nerve recovers, the nerves, as they regenerate, essentially the wires get crossed, and so when an individual wants to close their eye, their mouth may twitch or smile, and the reverse is true as well. Someone may smile, and their eye closes, and that's synkinesis or mass movement of the face. That's probably one of the most challenging things for patients afterward who have that. The nerve can

become hyperactive as it recovers, causing contractures. Crocodile tears or what we call crocodile tears are basically overproduction or dysfunction of the lacrimal gland, are all possibilities as well.

Dr. Jason Barnes:

How do you follow up with these patients, both on the medical side and the surgical side?

Dr. Richard Gurgel:

If someone is treated medically, I do like to have them come back at about three months after their initial presentation, and that's just to verify that they're following the normal course of what you'd expect for a Bell's palsy patient. By three months, there should be some sign of recovery, if not, a total recovery at that point, and individuals who undergo surgery will follow our typical postoperative protocol. They'll come back within a week or two to have a wound check, remove sutures, and then typically six weeks afterward for an audiogram, and then we'll also follow those patients at about three months, six months or a year to monitor the progress of their facial nerve recovery.

Dr. Jason Barnes:

Well, Dr. Gurgel, this has been a great discussion of a topic that we see, and I'll admit, I haven't always understood the approach and treatment algorithm, so I really appreciate it. Before I move into our summary, is there anything you'd like to add that we haven't talked about?

Dr. Richard Gurgel:

Well, I think this is a condition, Bell's palsy, that we as otolaryngologists and many other clinicians in primary care emergency room settings, we'll definitely see these patients. There's a real opportunity to educate colleagues as well, and that's the clinical practice guidelines, create or provide a really nice framework that we can use for educational materials because I do think there's a lot of misunderstanding of management of these patients. It always concerns me when I see a patient that comes in that was not treated with steroids. As one example, someone who does have Bell's palsy, or the patient that concerns me is the one that comes in who is diagnosed with Bell's palsy, but they actually have something else, and so for us, as clinicians who see these patients, I think it's always helpful to send a letter back to a referring provider, or sometimes even a reference to the clinical practice guidelines just to help educate other clinicians and make sure that these patients are getting good care, but other than that, I think that's pretty much it in a nutshell.

Dr. Jason Barnes:

Well, thanks so much. I'll now move on to our summary, and this will be a good summary of also the clinical practice guidelines. To start patients with Bell's palsy, present with a rapid onset facial paralysis, which is defined as less than 72 hours, and that will be their main symptom, but they can also have other symptoms such as hyperacusis, possible dry mouth or dysgeusia, or other facial nerve symptoms. These folks are typically in the age range of 15 to 45, but can also be outside that age range. We talked about some risk factors, one of which is pregnancy and diabetes and other immunocompromising pathologies. On physical exam, we're really looking to rule out any other causes of the facial paralysis that would exclude Bell's palsy.

From a pathophysiology standpoint, this is thought to be a viral etiology, and is due to that tight-fitting facial nerve, especially towards the labyrinthine segment and the geniculate. In terms of workup, routine lab testing is not recommended, nor is routine imaging, though there is some nuance to this. Electrodiagnostic testing can be obtained for those with complete paralysis. From a treatment

standpoint, oral steroids should certainly be used, and we prescribe high dose oral steroids for about 10 days, and we can consider antiviral therapy with this as well, but not as a primary treatment modality. Surgical decompression is considered for those meeting the ENoG criteria of greater than 90% reduction in comparison to the other side.

As Dr. Gurgel said, outcomes are quite good with steroid therapy alone, and surgical decompression is possibly going to increase the likelihood of recovery for those who have full paralysis. Dr. Gurgel, thanks so much for being here. Anything else you'd like to add?

Dr. Richard Gurgel:

Thank you, Jason. I really appreciate you taking the time to do this, and I've really enjoyed it. Thank you so much.

Dr. Jason Barnes:

Thank you. We'll now move on to our question asking portion of the episode. As a reminder, I'll ask a question, pause for a few seconds to give you time to think or to press pause yourself, and then give the answer. The first question is, "What is the definition of Bell's palsy?" Bell's palsy is defined as an acute facial nerve paralysis, which is unilateral in nature, and occurs within 72 hours, and there are no other identifiable causes for the paresis or paralysis.

The next question is, "What is the appropriate first-line therapy for Bell's palsy, and what workup should be obtained?" As we discussed, imaging and lab workup are not required upon initial presentation, though there are specific circumstances in which this could be helpful. Primary therapy should include high dose steroids, and you can also consider antivirals. Next question, "What are the electrodiagnostic criteria for consideration of surgical decompression?" Again, when we talk about ENoG, we want a greater than 90% loss in comparison to the contralateral side, and on EMG, we want no response.

For our final question, "What is the surgical approach for facial nerve decompression and what area of the nerve are you trying to decompress?" As Dr. Gurgel described, this needs to be performed through a middle cranial fossa approach, and we're trying to decompress the labyrinthine segment and the geniculate ganglion. Thanks so much, and we'll see you next time.