Cyberseminar Transcript

Date: June 5, 2019

Series: Mild TBI Diagnosis and Management Strategies

Session: Enhanced Cognitive Rehabilitation to Treat Comorbid TBI and PTSD

Presenter: Amy Jak, PhD

**Dr. DePalma:** It’s a pleasure today to have Dr. Amy Jak, who’s a staff neuropsychologist and director of the TBI Cognitive Rehabilitation Clinic at the VA San Diego Health Care System. Dr. Jak is Associate Professor of Psychiatry at UC and she will be talking about the interesting results of her CPT and SMART-CPT work for PTSD. Amy.

**Dr. Amy Jak:** Thank you. Can every, well, can someone tell me that you can hear me.

**Rob:** I can hear you, we can see your slides just fine.

**Dr. Amy Jak:** Perfect. Then I will, we’ll get going. So I appreciate the opportunity to speak to everyone today. I am going to talk to you about this hybrid treatment that we have been working on and have finished a clinical trial and give you kind of the back story about the inspiration of making the treatment and testing it and, of course, give you the results as well. So, let's see, there we go, okay. So, so, probably this is, the first slide, or these first couple of slides, are background information that many of you on the webinar may also already be familiar with but just to get everyone oriented and on the same page. TBI has been a long standing area of interest and concern among Veterans and service members, certainly with renewed interest during service in Iraq and Afghanistan but it’s been sort of an issue long standing for our service members well before the most recent Iraq and Afghanistan wars and so this is just data to sort of give the scope of the problem over the last, almost, gosh 20 years now, where the severity of TBI is listed there, mild TBI is by far the most prominent severity marker for TBI and this consistent with civilian data as well, that the vast majority of TBI’s that anyone experiences fall in the mild category and about 20% of those that were deployed to Iraq and Afghanistan did experience a TBI. That’s pretty consistent. There’s a little variability, depending on what data you look at, but fairly consistent around 20% have a history of concussion.

And, again, similarly, probably not a surprise to anyone, Post Traumatic Stress Disorder is also of significant concern as a treatment target for our Veterans. So across U.S. adults having a traumatic experience at some point is actually relatively common, so about 70% of U.S. adults have had some form of trauma over the course of their life. It’s much less common, however, to develop PTSD following that trauma, it’s only about 20% will actually go on to develop PTSD. And sort of sitting right near the, the percentage of those with, Veteran’s with a history of concussion, it’s also, you know, sort of 11% to 20% up to maybe 23%, or slightly higher percent of Iraq and Afghanistan Veterans have been diagnosed with PTSD.

So, again, these two conditions are of great importance to us at VA to provide treatment for our Veterans that are, are living with these conditions and so the VA and DoD guidelines for concussion, actually I can put up the picture of the ones for PTSD as well but, basically, you know there, there, there’s information in there that really highlights the importance of treating the co-morbidities that occur very commonly in individuals that’ve had a history of concussion as some of the primary lines of treatment, meaning treat the mental health condition, treat pain, treat sleep as first line treatment and, that there’s kind of no particular reason then that individuals that have a history of concussion should not be receiving these otherwise supported treatments for their co-morbidities. That’s certainly the guidelines that are provided and then if you look at the research literature which definitely inform the guidelines, it further just supports that. There’s really no significant information that would suggest that those that have a history of TBI should, somehow, you know, are not capable of fully participating in empirically supported treatment or trauma focused therapies.

Having said all of that, you know, where this research started was essentially that either we were finding in clinic, however, that wasn’t, didn’t feel like that was always what was happening. There felt to me, anecdotally, and to my colleagues, that there was a lot of reticence sometimes for individuals to engage our Veterans that had a history of concussion, particularly those with cognitive complaints in empirically supported treatments, you know, sort of streamlining them to “TBI” treatment and we would then see them in clinic and think gosh, their mental health co-morbidities are so prominent that that feels like the place that we should, that we should begin. So, again, this was I’ll frame this by saying, you know, we started really this work in earnest, the clinical trial started in 2012 and then the main outcome paper just came out this year in January so, again, some of this perspective is a long range perspective and things have changed over time. My perspective is that, just a little anecdote, I was pregnant with my son when the clinical trial started and when the paper came out, he was in the middle of first grade so that just gives some perspective on sometimes how long the work takes as well as, like I said, there’s a bit of a time lapse between when we start the work versus when we get the results out to everybody and certainly things have changed but I will tell you I still hear a lot of concern from other colleagues about individuals that have a history of concussion, particularly with cognitive complaints or cognitive symptoms and their ability to really fully participate in trauma focused treatment and fully benefit from that so I do think that misconception still exists and that was one of the inspirations for trying to come up with something that tackled this comorbidity a little bit better.

Okay, for some reason my slides on my own computer are not advancing, hold on, there we go. Okay. So, the treatment as it was sort of before SMART CPT is that you had TBI symptoms, specific treatments, and you had treatment of PTSD and, and actually I think that for the large part that’s probably still how most environments operate. Treatment for TBI, again, this is largely, my perspective is from a cognitive symptoms. There’s a lot of psychoeducation that’s supported by the literature for symptom management following a concussion and certainly for cognitive symptoms, we have put together some compensatory cognitive strategies into a manualized treatment called CogSMART, which is Cognitive Symptom Management and Rehabilitation Therapy spearheaded by Beth Twamley, and this work, then, sort of it’s more, it’s evolved into Cognitive Compensatory Training, so CPT, which is just sort of like the later evolution of CogSMART. Versus treatment for PTSD is what you may all be quite familiar with, right, so empirically supported treatments include CPT or prolonged exposure, come from a cognitive behavioral standpoint and really are targeting thoughts and behaviors associated with a trauma reaction.

So, CogSMART what it is, in a nutshell, is several modules looking at a whole host of different cognitive domains. So, a big focus of standard CogSMART, that is, is psychoeducation like I said about persistent post-concussive symptoms. Some general strategies that seem to cross cut like stress management, some quick mindfulness breathing, sleep hygiene sorts of techniques and then strategies for cognitive domains so prospective memory, things like calendar use and, you know, the list here makes it look fairly simplistic. It is a little bit more than simply advising someone to write their appointments down in their calendar, there’s a lot of problem solving and circling back and really working with an individual about integrating, legitimately using a calendar and checking a calendar and using it effectively into their lives and I would say the same about all of these strategies, but this list gives you the highlights essentially. Strategies for attention, strategies for learning and memory. So those involve not only strategies to help get information in a little bit a more efficiently and effectively but also some retrieval strategies to try to give folks strategies if you feel kind of like that memory is rattling around but you just can’t access it, sometimes retrieval strategies can help you pluck that memory back out. And then some executive functioning, particularly problem solving and breaking down large tasks into smaller components. So that would, that’s really what very standard CogSMART would look like which we would give to our Veterans that have cognitive, objective cognitive deficits as determined by comprehensive neuropsychological testing. And, it works so, again, the data is a slightly smaller group, literature then say for CPT, but the literature that we have is that it’s effective, that improves memory, it reduces post concussive symptoms reporting an improved quality of life.

This study that’s on the screen now was actually in the context of supported employment so this was a larger study to also get Veterans back to work who were seeking employment and the groups were sort of a standard supported employment condition versus supported employment augmented with CogSMART and that is the solid dark line that you see so you can see that the folks that got the CogSMART condition, again, improved their memory, reduced their reporting of post-concussive symptoms, and improved quality of life. And we saw very similar things in a larger three site trial of Compensatory Cognitive Training against the CCT, the evolution of CogSMART and same general results, again, this wasn’t in the context now of seeking employment or support employment, but just examining CPT in and of itself and individuals that got CCT reported, you know, improvements in their symptoms as well as on objective tests of attention learning and executive functioning which, as I already covered, are, are the domains that are really targeted in CogSMART or CPT.

And then certainly treatment of PTSD, this is from the National Center for PTSD’s website, just, again, highlighting that our treatments really are effective so if you took a hundred folks with PTSD and gave them a trauma focused therapy like CPT or PE a little over half will no longer have PTSD after about three months so the treatment is effective.

Again, I could have picked from just, you know, a quite large pool of studies to give you an exemplar, but I, you know, I picked this one to, to really, again, just highlight CPT in particular since that’s the focus today of, you know, CPT’s ability to improve PCL scores so, again, improve PTSD symptom reporting and not just, you know, improve it by a couple of points but the graph on the right is really showing how many people are improving their scores by 10 or more points which is really the clinically significant metric to note. Now again, just a couple of points but something that really, probably, is very notable to the Veteran or to the clinician getting that nice clinical significance as well. So, again, CPT has a large literature documenting its effectiveness.

The thing about all of that, that I’ve said so far is that it really is almost looking at, you know, sort of the, maybe the cognitive symptoms that are often attributed to concussion although, frankly there isn’t a whole large literature showing that folks with PTSD and not history of concussion also have a high likelihood of having some objective cognitive deficits from PTSD alone. But the cognitive symptoms often get attributed to TBI and are treated sort of, you know, as said by, by cognitive strategies and then PTSD is treated somewhat separately by our empirically supported treatment but the reality is, is that that’s not exactly what’s presenting in clinic so I really like this graph from Lew and Colleagues, again, it’s gosh a decade old now but, but the tenure of it still, I think, very much holds true is that if you look at PTSD, sort of, and just PTSD with no comorbidities, it’s the tiniest percentage of what, I think what’s happening and, same thing, PPCS there is Persistent Post-Concussive Symptoms. And again, anybody with just those symptoms and no additional comorbidity is really quite small. What, what the main focus I think of, of who, of who is really out there and who is seeking treatment is, is this particular group. For today, I’m going to kind of even ignore the whole chronic pain comorbidity that’s a whole other topic in and of itself. But, again, the comorbidity between PTSD and history of concussion is exceedingly common and really is the rule, the exception would be one of these conditions with no comorbidities. So, again, who’s coming to treatment is this comorbid group with overlapping symptoms and that’s exactly what we were seeing in my clinic.

So, this is data from several hundred Veterans seeking treatment all reporting a history, all reporting, yeah a history of mild-to-moderate TBI and all reporting seeking treatment for cognitive concerns. So everybody that came with a cognitive complaint though of those Veteran’s, really, you know, slightly less than a third of them had objective deficits on formal neuropsychological testing but, what we were seeing, was that this, again, this huge overlap then with PTSD, so around 85% of the Veteran’s seeking treatment actually had comorbid PTSD or other mental health conditions, prominently depression. The other interesting thing I think about the data is the relationship then between the mood symptoms and the essentially post concussive symptoms although, certainly, the symptoms that we measure on the neurobehavioral symptom inventory, or post-concussive symptoms in general, are really nonspecific, overlap with any number of other conditions and there certainly is lots of data to suggest that, that concussion is actually not the best predictor sometimes of this list of essentially post-concussive symptoms. So here just highlighting, you know, the relationship is quite strong between depressive symptoms and neurobehavioral symptoms and same thing quite strong between PTSD symptoms and neurobehavioral symptoms and then, honestly, not very strong if you look at the NSI and the comparisons between injury variables which is number of TBIs, loss of consciousness, and post traumatic amnesia. There’s really, virtually, you know, there’s no relationship really between the neurobehavioral symptoms and the actual TBI injury variable.

So, again this trial was put together initially by Jennifer Vasterling and her group and it was such a wonderful way to think about the complex and dynamic interaction between all of these symptoms that we modified it when we were thinking about the theoretically underpinnings of the presenting concerns and thinking about how to structure Smart-CPT. And so what, you know, what I think has been happening is that really we’ve been sort of treating, you know, you have a psychological trauma, you develop PTSD, and you get empirically supported treatment for that, for PTSD in the best case scenario and then, similarly, you have a concussion. If your symptoms do not resolve along our expected timeline, particularly if you have enduring cognitive symptoms, that you might get some cognitive compensatory training or CogSMART or something similar. But they’re sort of happening, maybe in, largely separately, and, at best, they might be happening in parallel but the reality is sort of all the things I think that are happening in the middle of this diagram, all of this kind of dynamic back and forth where the concussion influences the trauma reaction, the trauma reaction influences one’s recovery from the acute neurologic effects of the concussion. And again, this dynamic interplay is really more what we’re seeing and so our hope was to target something that actually treated the conditions more concurrently instead of keeping them separate when really they’re presenting very much together.

All right so, to pause and make sure everybody is still with us here, here is your question, your poll question. So, among Veteran’s with history of mild TBI presenting for treatment, comorbidity of other conditions, things like mental health or pain, is high, highly likely. Is that true or false?

**Rob:** And Dr. Jak that poll is open and we have over 50% of the attendees making their choices so we’ll give people another few moments to make their choices. Things are moving along quite rapidly so it won’t be long now. And it looks like things have leveled out so I’m going to go ahead and close the poll and share out the results and I’ll tell you that 99% of attendees who answered chose true and, clearly only 1% chose false and now we’re back on your slides.

**Dr. Amy Jak:** Got it. Well outstanding. That was not meant to be a trick question, just like I said to kind of get, keep everybody oriented to where we are but, yes, exactly. So these conditions, as hopefully I’ve illustrated are really highly prevalent and comorbid in Veterans. And really the psychological factors do play a really notable role in, in the persistence of symptoms following a concussion. So what might start out as a neurologically derived event and neurologically based symptoms, over time, there’s just a really large body of evidence that would indicate that it’s the psychological factors that really contribute to persistence of symptoms, even if they started out under a more neurologic etiology. And so again, because of this, you know, this high comorbidity and this really very much intertwined nature of symptoms there really was not what I could find, a really good treatment that was really targeting that comorbidity and that’s what then we set out to do.

So, SMART-CPT we put together a hybrid treatment of sorts where it really keeps all of the standard elements of CPT, given CPT’s much longer standing history and known effectiveness in treating PTSD we did not want to really mess with that treatment at all but we did then, in the SMART-CPT condition, integrate elements of CogSMART and this compensatory cognitive training approach into it to try to streamline that treatment and target some of the common overlapping symptoms as well as common etiology and comorbidities. So, the hope really like I said, was to make a treatment that was really getting at that center core of what was going on with our Veterans but also to try to be more, more streamline, more time efficient for both patient and clinic. So, SMART-CPT in the trial it was given weekly so it took 12 to 15 hours to complete in 12 weeks versus about 24 hours completed in, say 12 to 24 weeks, if you did CPT and CogSMART separately. It would be 12 weeks if you ran them, the two separate treatments in, you know, in parallel so you know one appointment was for CPT and then appointment tomorrow is for CogSMART over 12 weeks. But more typically, probably, what was happening in clinic rather, was that they were consecutive so then we have the treatment over, you know 12 weeks of CPT and 12 weeks of CogSMART so, again, we were hoping to really streamline that as well.

So this graph is, the numbers aren’t, the numbers were the, the original projections so the numbers aren’t quite right. They’re not the end numbers but it’s a nice visual I think to just lay out the study design. So it was a randomized trial, half randomly assigned to get standard CPT, no modifications really whatsoever and half got SMART-CPT. They were assessed at baseline before they started treatment. They got comprehensive neurological assessment as well as symptom report, quality of life and disease. They were assessed again at the end of treatment and then they were assessed one more time three months beyond that. So that’s the baseline assessment, the three month assessment, and then the six month assessment.

And so what’s really in SMART-CPT. So, so, SMART-CPT, like I said, it keeps all of the standard content of, of CPT. We didn’t change the CPT content but we did incorporate in the, sort of the best elements of, of CogSMART so, again, you can appreciate that if one our goals was streamlining and reducing treatment time we weren’t looking to just, you know, sort of in one two hour session give an hour of CPT and then a hour of CogSMART. So we did trim down CogSMART based really on Veteran feedback, of questionnaires that they filled out from clinical care, the things that we saw that Veterans when we teach them this sort of huge menu of possible strategies which were the ones that most of our Veterans were gravitating to on a regular basis and we select out just those to include in SMART-CPT. So, as examples, we included, we did include strategies from all three of the targeted domains so from attention, from memory, and from executive functioning. And then we did do a couple of things to CPT again, not the content specifically, but we tried to make the worksheets a little more user friendly. We’d gotten some feedback that a lot of people find some of the challenging worksheets challenging to follow and so we tried to do some things to streamline those. We again tried to incorporate other elements of CogSMART as far as they then would get written summaries of sort of the take home message of not only the CPT content for the day, but the CogSMART strategy for the day. Again some more written information to help them work through the topics of the day. And how, then, when I say incorporated, we actually did think a lot about how best to do this at the beginning when we were designing the treatment. Meaning were we just going to get all the CPT content and then give the CogSMART content or were, was the CogSMART strategies going to somehow be interwoven, you know, kind of within the CPT and, what we ultimately did was, was really the latter where the, the CPT content was, was delivered, you know, quite standardly and that was the first thing that we would do in session. And then the cognitive CogSMART strategies were given after a purposeful break which, again, is another CogSMART strategy so that, you know, we can only take in so much information at one time so to give people a purposeful one to two minute break and then go into the, and model that in vivo, and then move into the CogSMART strategy. They also got a manual with all of this so, again, lots of written information that they could have with them. And then, like I said, CPT is, is the standard CPT. We didn’t change it for that condition at all. That standard CPT group got the standard worksheet. They did not get the kind of CogSMARTed up worksheet. That was just in the SMART-CPT group. Both treatments did last 12 sessions at the outset. We figured it would take probably an extra 15 minutes or so to incorporate the CogSMART content so we estimated that it would be 75 minutes. In actuality it ended up being closer to 90 and then the CPT sessions were predicted to be 60 minutes but, sort in reality, since we were timing everything, they actually turned out to be closer to kind of an hour and 15 minutes or so. So again, clearly there’s a time difference but that was to be expected and even adding, though, that extra time it still is less time than doing the two treatments completely separately.

So like I said, what we did actually put in then to the SMART-CPT from CogSMART. We talked about the breaks. We teach some self-talk strategies. Again calendar use is a huge one so that really just had to be included. Same thing for the home for your important items. This is really just a strategy that responds to probably one of our most prominent complaints which is losing cell phones, keys, and/or glasses and not being able to keep track of those important items that you use all the time and every day and so working out a strategy to keep better track of those. Other visual notes or alarms, visual imagery is a big one, again sort of trying to intake information in multiple sensory modalities, so if hear it and can visualize it you’re more likely to remember it. Again retrieval strategies so we focused a lot on encoding strategies but, also, we did include the retrieval strategies in SMART-CPT and then certainly, goal setting and brainstorming and problem solving strategies. So those are the main strategies that were taken out of the full CogSMART manual and included in SMART-CPT.

As I said, we also then did written copies of the session agenda and through a review to hit the highlights of what, what the take home messages were from each thing you would have learned. Again, think about like the scenes of different CPT sessions, flight or, fight or flight, just world belief, that sort of thing. We, I’ll show you the, the sample worksheet that we kind of changed up, the A-B-C worksheets and challenging beliefs worksheet to hopefully make them a little bit clearer. We would purposely repeat key points and like I said, then the built-in breaks since it is an awful lot of information even just CPT alone so we would build in purposeful breaks.

So here’s what the typical Challenging Belief Worksheet looked like for standard CPT and here’s the change that we made to it. Again there’s still an awful lot of information on it. I don’t deny that, but we do get feedback that the color coding was helpful to keep people sort of flowing through it and that the checkboxes actually were pretty helpful as opposed to, kind of having to fill in or knowing everything being open ended that sometimes being able to just check boxes was helpful. So that’s one of the types of modifications that we made within SMART-CPT. Again, the content is really no different so, again, we’re not changing the content of CPT, just sort of changing how it’s presented to maybe make it a little more user friendly to folks that are struggling with cognitive overload.

Okay, so, who then was who was in the study. This was who was in the study. We had a hundred folks pretty evenly split. There were no significant differences between the groups on demographic factors. There were no significant differences between the groups on any of the TBI injury variables. Again either there were no differences between completion rates or who had, there was a small allowance for prior treatment. And there was no difference in who had had the small taste of prior treatment before. The only significant difference really was the average time for sessions which I’ve already mentioned was expected. There was no difference, actually, if you look down on any of the baseline symptom ratings, or the neuropsychological performance. I mean all of this really I think is to say that the randomization was effective.

The other thing that I might just point out for those of you particularly interested in the cognitive components is that if you look at the group means, as group, anyway, again some individuals = had lower and fell into the impaired range on scores but, overall, as a group these, despite having cognitive complaints which was a condition of entry into the study, as a group they did not actually have cognitive deficits. These scores are almost exclusively within normative expectations.

Okay, so what happened? Well, lots of symptom reduction happened which is great. So, I was, my one other anecdote is that I was super, just super motivated to put this together. I really thought it was going to target a real need that we had in our Veteran population and I felt just so strongly and positively about it that it was, it wasn’t, I probably should have thought about it slightly earlier but it wasn’t until we really got into the trial and were seen Veterans that it occurred to me that an unintended consequence was that, was I going to have, by adding the SMART-CPT or CogSMART strategies, was I somehow going to have watered down, or diluted the effect of CPT which we already really know works quite well. And I was sort of, you know, waiting not patiently at all to make sure that I had not unintended or sort of = done a disservice to an already functional treatment and, luckily, that was not the case right? You can see in the first graph that P-scale symptoms dropped nicely for both groups. Depressive symptoms reduced for both groups, as did the neurobehavioral symptom inventory ratings so their post-concussive symptoms also reduced for both groups. So again, these are not only statistically significant declines so in effect of time but they’re also clinically significant declines which is also really nice to see but, you will notice there’s no real difference in the group, right?

So whether you got SMART-CPT or whether you got CPT you had about the same amount of symptom reduction. If not, we don’t have a graph for it here, but we also found similar improvements, again, effective time but not of group by time in quality of life. So again, that was really nice to see the symptoms drop, particularly on the PTSD symptoms so probably the nicest thing to see was, then, that, you know, the added benefit essentially of adding in the cognitive strategy training, right. So you get attention improvements on, with digit span, you get verbal learning improvements on CDLT and verbal memory improvements as well as problem solving improvements measured by the constant card sorting. Kind of above and beyond in the CPT, SMART-CPT group above and beyond what you would see in the CPT group. So again, there’s a little bit of kind of upward trajectory certainly of the CPT group on the cognitive outcome but notable and significant differences so this is a group by time interaction for the cognitive variables. You know again, the other thing that you’ll notice, kind of like I the, in the table that I showed though, is that these, as a group, as a, meaning these are ten, normal scores really to begin with, albeit, kind of, you know, often low average but still improved over time. So the results really were quite encouraging for us. You know, one of the things that I start out by saying and we’re getting a lot of feedback often that maybe our Veterans with history of concussion and cognitive concerns, in particular, were not great candidates for empirically supported trauma focused therapy and I think that our data really just add to the growing literature that says that’s not a very well founded concern. That certainly our Veterans with history of concussion absolutely can successfully complete these mental health therapies, again, with or without modifications. The modifications really seem to come in to most benefit to the cognitive functioning. So when you add the compensatory cognitive strategies to the mental health treatment you do seem to get some nice differential benefit to the cognitive domain attention, memory learning, and novel problem solving and, certainly, we also get lots of symptom reductions and reduction in PTSD symptoms in both groups in post-concussive symptoms as well as improvement in quality of life. You know I think the big benefit is that then is a potential avenue to really streamline care and defragment it so that you’re not only making it, again, more convenient for the Veteran but I think it also is really targeting the presentation better, right? They’re not, it’s not really being, it’s not really two separate things. It as I showed with the earlier data it sort of comes all in one, in one package and so the idea to really try to treat it in that one package was, was the other real goal of this and I do think that SMART-CPT is effective for that.

You know the last couple of things that I’ll just say and then I’m happy to take some questions is that we are then looking at a few other things right now to further, to even further improve or to further think about the cognitive functioning of this group of Veterans. So I didn’t include slides but I did want to just add that some secondary analyses that we, we’ve done have looked at people executive functioning and who and how that actually played into session completion and dropout rates. So you’ll notice, if you look at that table very carefully, that we did have about a 50% dropout rate which is pretty typical, actually, of clinical care but it’s not what we, anybody would want right? We have treatments that work, we want Veterans to stay in them and get the full benefit from them so one of the things that we found in our data, though, was that people who did start with lower executive functioning were more likely to drop out of treatment and to complete fewer sessions. So we have, Laura Crocker has a career development award under, ongoing right now to look at if you preemptively try to bolster somebody’s executive functioning will that improve treatment retention rates and session completion rate. So again there, I think there’s lots of other interesting things to unpack in this data and this is just sort of the broader, broader picture and overview. So, with that, I will, be happy if people have questions. I’ll be happy to do my best to try to answer them.

**Rob:** Thank you Amy. We do have a few questions queued up so let me just launch right into them. First question. How can a CPT trained staff member get trained in, they call it CPT-SMART, but it’s SMART-CPT, correct?

**Dr. Amy Jak:** Yeah but, either way, I know what you’re talking about.

**Rob:** Right.

**Dr. Amy Jak:** That’s a great question right. The bigger, the bigger, kind of heavier lift of this training is being CPT trained. So folks that already are CPT trained, their training for the cognitive strategies is really not that complicated. We don’t have a particular formal training, sort of in the same way that there’s like roll out training say for CPT in VA. But anybody that’s interested feel free to contact me. I’m happy to share the manuals that we have and, again, I’m happy to kind of go over the cognitive strategies and some training that’s involved. Certainly there are lots of sites across VA that are already using CogSMART so, if your VA is one of those, again, sometimes just hooking you up with somebody that’s already been delivering CogSMART to get that aspect of the treatment is the way to go. And here, speaking of things, oh, contact me, here’s my email and you’re welcome to email me if you’re interested in more information about the manuals or how to learn the CogSMART specific strategies.

**Rob:** Thank you. Let me just remind audience members if you’d like to submit a question, there’s a specific part of the Go-To-Webinar control panel that says questions and enter your question there and I’ll read it to Amy. Next up. Is this for individuals or can it be applied to groups as well?

**Dr. Amy Jak:** Such a great question. So the trial that we did was individually delivered and so that’s the data so I would say we’re pretty sure it works there. I would be optimistic that it could be delivered in groups and would work in that context given that there is data to support group delivery of standalone CPT. And actually the multi-set trial I showed for CogSMART, that was grouped delivered so we know that CogSMART works in a group and we know that CPT works in a group. So we haven’t done that actual study yet but I would be optimistic that it could be group delivered based on the evidence of the two individual treatments in a group format.

**Rob:** Thank you. Next up. What would be the power considerations i.e., number of patients needed to trial efficacy of CogSMART versus separate treatments.

**Dr. Amy Jak:** Yeah. That’s a great question. So we had, you know we found in our trial we did find typically medium effects sizes is what we were finding so I think we were adequately powered for the single site to find this. You know we actually, it’s a good question because we have some concerns because, particularly CPT is, has such good efficacy, you know, that finding a signal potentially above and beyond what CPT already provides so we were encouraged by kind of seeing that, at least a cognitive signal. But yeah, I mean the power considerations certainly have a lot of factors that go into it so I guess I’m remised to say, oh you’d need, like, exactly this many people off the top of my head but, certainly, you know, that’s a consideration but we did, I think we were adequately power, like I said, because we were finding largely medium effect sizes in the trial that we did.

**Rob:** Okay. Thank you. Lots of questions now. What is the total number of patients now completing treatment?

**Dr. Amy Jak:** Oh. So the trial ended so that was our 100 patients and so lots of, I actually don’t, I don’t have a number now sort of on the clinical front of how many patients have been done the SMART-CPT intervention outside of the trial. I do, like I said, I’ve had a lot of interest from people seeing the publication or other venues where they’ve heard about it so I can’t right now but it’s a noble number at least of how many people I’ve sent the manual to thus far that have indicated they would like to try it in their clinical setting but I can’t, unfortunately give you a number.

**Rob:** Okay. Moving on then. If there’s no CogSMART in our VA, how would you recommend we go about beginning one and in parenthesis (no cognitive retraining other than speech therapy).

**Dr. Amy Jak:** Yeah. So feel free to email me. If you, I’m happy to sort of talk further because sometimes it helpful to know, you know, every, what’s the saying you’ve been to one VA, you’ve been to one VA. Everyone runs, even though we’re a large system everyone runs a little bit differently. You can also, a good place to start for CogSMART, standalone CogSMART is at CogSMART.com. It is, it’s all free so, even though it’s a dot com you can go there. All you have to do is put in your email address and you can get the CogSMART manual sent to you and there’s information on there about all sorts of things that might be relevant to getting a program started training information, like I said, the manuals, that sort of thing, so that’s a good resource as well. It’s just CogSMART.com.

**Rob:** Okay. Thank you. Are you partnering with a speech pathologist for the CogSMART portion of this program?

**Dr. Amy Jak:** The, you know, I think, again, our, if you’ve been at one VA, you’ve been at one VA so our VA maybe is a little bit unique in that we do have our cognitive rehabilitation clinic and, so, we were doing, that’s how the CogSMART is delivered clinically. Again the trial was really delivered under the auspices of research but the ongoing clinical CogSMART delivery is through our cognitive rehabilitation clinic through psychology and neuropsychology, although on our apply trauma treatment teams we do certainly partner with speech therapy and with occupational therapy and we’ve really found that there’s always kind enough, enough need to go around so that, again, we do partner with them in broader poly trauma treatment but we in psychology and neuropsychology and cog rehab have been delivery CogSMART in our clinic.

**Rob:** Great. Thank you. Make sure, please confirm that I have not asked this question. Did all patients see the cognitive component as relevant?

**Dr. Amy Jak:** No, you haven’t asked that question yet. Yeah. I mean the feedback that we got and, again, part of the entry criteria were that these were Veterans that had PTSD, a history of concussion, and cognitive complaints. So for that reason they were all saying that they found those cognitive strategies helpful. Again, so that’s, that, you know, I think that’s another important caveat right? If you happen to have Veteran’\s that have a history of concussion but don’t have ongoing, you know, persistent post concussive symptoms or folks that have PTSD and, again, just don’t have any cognitive complaints there’s really probably, you know this is not the best treatment for them but because, again, we were targeting these, these Veteran’s that have cognitive complaints they were all on the, kind of client satisfaction questionnaire, they were positive about the cognitive symptom component of it.

**Rob:** Thank you. We have a few more left so moving on. What has been your experience with PTSD specialty clinic, yes, clinical teams being open to deviation from the existing established protocols and/or need to be flexible in working cooperatively with cog rehab providers?

**Dr. Amy Jak:** Yeah I think that’s always still an ongoing process. I mean part of the ongoing process, right, is that, as promising as I think this data is and it was, you know, a single site trial so I can, you know, I’m a fan of, of, of SMART-CPT but I can also appreciate any reticence that PTSD clinics might have to bring in a new treatment that has maybe not the same amount of robust data as a standalone CPT. But you know our history at least clinically, and from the feedback that I’ve gotten more informally, like I said from folks emailing me from VA’s kind of across the country is that people do seem open to the idea that they appreciate that there’s a lot of cognitive complaints. There’s a lot of, again, comorbidity and that they’re open to the idea. Anything that takes, you know, it’s a little, it’s almost a little weird at my VA because cog rehab has existed now for, gosh, 12 years, I think, and for many of those years before the trial of SMART-CPT. So, I think there’s been sort of like it’s just habit, like I said, that it was treated, hey PTSD gets treated over here and cognitive symptoms get treated over there sort of undoing some of those long standing habits is one of the things that my VA is trying to overcome. But, like I said, I can appreciate that there might be also just some hesitation about the newness of the data and it’s a single site trial so, like I said, I think it’s really compelling data but it is just one study at this point.

**Rob:** This next person wants to know if there was any strangeness in the transition from CPT to cognitive within the session.

**Dr. Amy Jak:** No. Not really. Again, I think the purposeful break was useful. There’s an agenda that’s presented at the beginning too so it’s made quite clear that that transition will happen. We did, I will tell you like just anecdotally we went back and forth a little bit when we decided that doing like, sort of the CPT content and then the CogSMART content in separate times versus like, you know, legitimately integrating them alternating throughout the entire session. Once we decided to go this chunk of information and then that chunk of information. We did talk about which to go, which would lead. Again maybe starting with CogSMART because it’s a little more accessible, it’s a little less threatening, right, like ease people into a session and then into the CPT work. But, then, you know, sort of what won out was often, you know, eat your vegetables first kind of thing. Like the more challenging component should be focused on first to get, again, also with an eye towards not contributing in any way to avoidance of some of the more challenging components of the treatment, sort of getting into them first. Anyway we had lots of discussions about which way to do it and this is what we did settle on and it, you know, it did seem to work and I think although I don’t exactly have impartible data, I think the purposeful break and the agenda setting at the beginning was useful in letting Veterans know that that transition was coming and making it less weird or sort of less like, okay, well now we’re, you know, now that we’re done talking about your trauma let's like talk about your calendar. I think that transition actually came a little more naturally then it might seem like just on the surface.

**Rob:** Thank you. We have five more questions and five more minutes so we’re going to get through them okay?

**Dr. Amy Jak:** All right I’ll talk fast.

**Rob:** Yeah. This may be more of a comment. On your new CVA research you expect to find a reduction in attrition. It was written as a statement.

**Dr. Amy Jak:** Yeah. That’s our hope. That’s our hope. Right? As a, you know, the data looked like if you, anyway there’s a lot big theory to about why executive functioning would be really valuable in something like CPT. It’s you know, there’s a lot of thinking about thinking and using your executive functioning skills, so, you know, the idea would be that if you bolstered those you might be better able to really engage. Also that it would give you practical skills about keeping your appointments on your calendar, anyway, any number of ways that it might benefit treatment attendance so that is our hope.

**Rob:** This person says, I don’t think you mentioned functional status of the participants pre, post treatment, meaning employment status. Can you comment on that and are there presumed benefits of this hybrid treatment to real life function beyond neuropsychological testing results? Thanks.

**Dr. Amy Jak:** Yeah that’s a great question. So we, some of the questions within the quality of life scale looked at things like employment and work and they’re on sort of the, the, the growth analyses there weren’t really any differential differences to quality of life. That actually is something though that we’re interested in doing a little bit deeper dive into. Some of the challenges and limitations there were that the numbers of people that were working full time or were in school full time, you know, those became smaller. They weren’t our entire sample so we were sort of losing power to look at some of those analysis at a more fine grain level but it’s a great question and one that I’m particularly interested in. So, again, kind of work related and school related quality of life there didn’t seem to be, on the surface, any differential differences between CPT outcomes and SMART-CPT outcomes. But I am interested in trying to dive into our data a little bit deeper to try to take those things apart better.

**Rob:** Dr. Jak we’re not going to get finished by the top of the hour is it okay with you if we go a few minutes over?

**Dr. Amy Jak:** That’s fine with me.

**Rob:** Okay. In your study as a group participants did not demonstrate impairments on various neuropsychological measures. Do you have information about how effective SMART-CPT was for individuals with cognitive impairments and concomitant PTSD versus those that performed WFL on cognitive measures?

**Dr. Amy Jak:** Yeah. So that’s also a great question. That is another thing that we are in the midst of sort of do, like doing a secondary analysis of right, so, at a group level right, the cognitive scores were generally within the normal range but there’s tons of variability and so, yes, there were individuals that had impaired scores and so we are doing some, looking at some secondary analysis to try to look at that question, which I don’t exactly have the answer to from the trial at this point. But our clinical experience is that yes. Now again we were only giving them CogSMART, not SMART-CPT but there does seem to be good effect but in clinic we’re only seeing, we’re only giving CogSMART to folks that have objective deficits so yes cognitive complaints get you to my clinic but deficits get you the treatment. The one thing that I will say we did do a case study, again, it was just, it was actually somebody was in the standard CPT condition who had objective deficits but also had some other interesting kind of behavioral symptoms and it did seem to effectively improve his cognitive scores above the deficits, kind of, you know, improve it and he started in a deficit range so again stay tuned, I guess, on the full answer to that question.

**Rob:** Thank you. It is now the top of the hour so attendees if you need to leave, please do fill out the short survey that pops up when you exit the Cyberseminar. Next question. Was there a cut off on how long ago the TBI/concussions were?

**Dr. Amy Jak:** No. There was not.

**Rob:** Well that was easy.

**Dr. Amy Jak:** That was the shortest answer of the day.

**Rob:** Right. We often have advocated that Veterans with TBI could benefit from cognitive modifications for treatment of other comorbid issues. What are your thoughts on the possibility of using similar modifications for treatments for substance abuse, for example. Any additional suggestions to offer?

**Dr. Amy Jak:** Yeah. I mean I’m kind of a fan of this model. I really am. So I do think and again I would say that I’m not sure the modifications need to be terribly dramatic. A lot of times, substance use is a great example too of another condition where the substance use component might actually be the driver of the cognitive symptoms, right, so you might want the modifications even if somebody doesn’t have a history of concussion but really just to manage the cognitive symptoms regardless of their etiology. And s, some of the things like, you know, just having, we feel like having the written take home handouts of what did we actually talk about today, what were the real main points that I was supposed to get out of treatment today was a big one. Doing a little bit more repetition than you might otherwise do in a standard treatment and honestly, taking some breaks. It’s just a lot of information to take in so, I mean, those three off the top of my head seem particularly valuable. But yeah, I’m kind of a fan of the model of making some procedural I guess modifications to treatment with less content modifications but just sort of procedural in how it’s delivered kind of modifications. Maybe going a little slower for some Veterans too, right? You’re just not going to fit quite all standard information in one session in clinic, again, you can’t do that in a clinical trial, but.

**Rob:** Okay. Getting towards the end. Do you intend to collect info on self-efficacy capitalizing on the use of tools/strategies trained in CogSMART or SMART-CPT to minimize and self-manage symptoms?

**Dr. Amy Jak:** Yeah. I mean that’s really the spirit of CogSMART and the cognitive strategies is, well, sort of the spirit, I guess, of any psychotherapy though too, is that you teach people the strategies and then, yes, we want them to go into their daily lives and be able to feel like they’re using them effectively. And yes that it increases their self-efficacy. You know I think that ties back into the earlier question about work and school and functional outcomes, we’re interested in all of those things.

**Rob:** And lastly. Does you clinic continue to use CogSMART?

**Dr. Amy Jak:** We do. Yep. We do.

**Rob:** Excuse me. Well, that was the last question but I would like to give you a chance to make closing comments if you’d like to.

**Dr. Amy Jak:** No. I just appreciate everybody who joined the webinar, the questions were great ones. It’s hard to have a quote unquote dialogue with this particular format but I do appreciate the, the exchange of ideas by the questions and, yeah, I appreciate everybody that took the time to come on the webinar today.

**Rob:** Wonderful. Thank you. Dr. DePalma, do you have anything to say?

**Dr. DePalma:** I’d like to thank Amy for a very thorough discussion. We note that there are about 117 participants listening to this and, judging from the questions, there’s intense interest in generalizing this type of discipline for treatment. Thank you very much Amy.

**Dr. Amy Jak:** My pleasure.