# Doing the Flash Technique Without Bilateral Stimulation and Without Prompted Blinking: Two Vignettes

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This article presents two vignettes on the successful use of the Flash Technique (FT) without bilateral stimulation and prompted without blinking. FT was first developed as a protocol to quickly bring down the emotional distress of a traumatic memory during the preparation phase of eye movement desensitization and reprocessing (EMDR) therapy, so that EMDR could proceed. A recent model for FT (Wong, 2021) proposes that, with FT, traumatized clients may be able to access their traumatic memory briefly, reflexively, and without the fear response, during blinking. This sets up a prediction error which, with repeated blinking, may lead to memory reconsolidation and processing of the traumatic memory. Since the access to the traumatic memory is reflexive and brief, the processing of the memory is outside of the awareness of the client and of the therapist, which is consistent with the practitioner's and the client's experience with FT. Wong's model is based on published fMRI data from neuroscience and established concepts in working memory research, and the model will be reviewed in some detail in the article. However, it is also based on fMRI data for spontaneous and not-prompted blinking, and does not require bilateral stimulation, implying that processing could occur using FT without bilateral stimulation and without prompted blinking, relying instead only on spontaneous blinking. Our two vignettes provide two data points that support this aspect of Wong's model.

**Keywords:** Flash Technique (FT); eye movement desensitization and reprocessing (EMDR); Wong's model for FT; spontaneous blinking; bilateral stimulation (BLS)

In this article, we offer two vignettes showing that processing of a traumatic memory is possible using the Flash Technique (FT) without bilateral stimulation and without prompted blinking. We believe that the two vignettes presented in this article offer two data points that corroborate a recent model for FT (Wong, 2021).

The FT (Manfield et al., 2017) was first developed as a protocol for use in the preparation phase of EMDR to quickly reduce the emotional disturbance of a traumatic memory so that the client could stay in the window of tolerance (Siegel, 1999) and standard EMDR could proceed. The choice of using FT in the preparation phase of EMDR would depend on the clinical judgment of the therapist based on the presentation of the client in session. In practice, it often meant that the subjective units of disturbance (SUD) score was high, in the 7–10 range, again, based on the clinical judgment and practice of the therapist.

Recently, Wong (2021) proposed a model for the basic mechanism of FT, and how it could help clients process traumatic memories outside of their conscious awareness. Wong's model is based on established concepts from working memory research as well as published fMRI data and the current understanding in neuroscience for posttraumatic stress disorder (PTSD) patients, that symptoms, such as hypervigilance, hyperarousal, and flashbacks, may be due to the enhanced connectivity from the periaqueductal grey, in the midbrain, of the brain's fast, reflexive threat detection system to the amygdala and left hippocampus. Furthermore, under the conditions set up by the FT protocol and during spontaneous blinking, the periaqueductal grey may be able to access the


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traumatic memory briefly via this enhanced connectivity and then return to the task at hand, without the awareness of the patient. During this brief access to the traumatic memory, the amygdala does not have time to react and there will be no fear response. A traumatic memory without fear response repeated many times during blinking may provide the prediction error needed for memory reconsolidation and reduction in emotional disturbance of the memory. Wong's model will be discussed in more detail later in this article.

In the current practice of FT, clients do bilateral tapping and blink their eyes when prompted. However, the neuroscience for Wong's model for brief access to the traumatic memory was based on fMRI data from spontaneous blinking, and not based on data for prompted blinking or bilateral stimulation. Wong proposed that during the brief access to the traumatic memory, memory reconsolidation would occur, leading to reduction in the emotional disturbance. In practice, this would mean a decrease in the SUD score. Thus, confirming that a reduction in SUD can occur in FT, without bilateral stimulation and without prompted blinking, would corroborate one aspect of Wong's model.

In this article, we will first review the basics of EMDR, FT, and Wong's model for FT. We will then review two vignettes that show reduction in emotional disturbance can occur in FT without bilateral stimulation and prompted blinking. We will also offer our thoughts on the implications of our vignettes.

## EMDR

EMDR was first introduced more than 30 years ago and has since developed into a comprehensive, 8-phased therapy for treatment of memories of adverse life experiences (Shapiro, 2017): History-taking, preparation, assessment, desensitization, installation, body scan, closure, and reevaluation. EMDR is based on the Adaptive Information Processing model (Shapiro, 2017; Solomon & Shapiro, 2008) which posits that the brain is predisposed to process information related to experienced events to an adaptive resolution. However, "a particularly distressing incident may become stored in state-specific form, meaning frozen in time in its own neural network, unable to connect with other memory networks that hold adaptive information" (Solomon & Shapiro, 2008, p. 316). The trauma victim may over-react when triggered and, in the case of a flashback, relive the traumatic memory when presented with cues of the event. EMDR has proven to be an effective treatment for trauma and, in general, requires a shorter time than other trauma treatments and therapies (Mavranezouli et al., 2020). Recent fMRI measurements have also shown that EMDR may calm the fear circuits in the brain (Rousseau et al., 2019). However, the mechanism of action for EMDR is not well-understood. While clients may come up with insights during the bilateral stimulation (BLS) and are aware of a reduction in the disturbance of the memory, they do not actively search for insights or related information, or consciously work on the traumatic memory or other available information to effect the changes. At this point, there is lack of consensus regarding to the mechanisms of action for EMDR (Landin-Romero et al., 2018). Currently, most of the studies involved healthy subjects and are limited in size. Larger studies with clinical populations are needed to shed more light on the basic mechanism of EMDR.

### Flash Technique

The Flash Technique was first developed as an adjunct technique for use in the preparation phase of EMDR to quickly reduce the emotional disturbance of a trauma memory and to keep clients within the window of tolerance, so that EMDR can proceed (Manfield et al. 2017). This is especially important for highly disturbing memories, so as to minimize the chance of abreaction. Also, by using FT in the preparation phase, the desensitization and reprocessing can start from a state of lower emotional disturbance and Phases 4–7 of the EMDR protocol can be completed in a shorter time.

In the current version of FT (Manfield et al. 2021), clients are asked to identify, but not dwell on, a traumatic memory. They are then asked to rate the emotional disturbance of the target from 0 to 10, with 0 meaning that the target is neutral, and not disturbing, and 10 meaning that the target is highly disturbing. This rating is also known as the subjective units of disturbance (SUD) scale. Clients are then asked to put the target aside and to instead focus on something positive and engaging, the positive engaging focus (PEF), such as a happy memory, a fun video, music, or talking with the therapist about something special, such as a hobby or a vacation, while doing bilateral tapping. During this time, clients are prompted periodically to blink quickly three to five times. After six sets of prompted blinks, clients are asked to lightly check in with the target and to notice if there is a difference. The procedure is repeated until clients feel the disturbance from the target has been minimized. Clients will typically experience a reduction in their SUD scores, without any conscious awareness of

processing. Clients can then continue with the EMDR standard protocol to finish processing of the traumatic memory.

Manfield et al. (2021) also presented the results of a large-scale study showing the efficacy of FT. In this study, 77 health-care workers and 98 psychotherapists impacted by their work with COVID-19 patients attended one of 8 FT groups with sizes varying from 5 to 40 people. Participants were instructed by the therapist to pick their own positive engaging focus and then, guided by the therapist, do two 15-minute sessions of FT. The results from the first session showed a reduction in mean SUD scores from 7.34 to 3.19, with a Hedges' g of 2.39, showing a large effect size. Similar results were obtained in the second 15-minute session. For the 111 participants who chose a different disturbing memory, the mean SUD scores decreased from 6.86 to 2.59 with a Hedges' g of 2.49, again showing a large effect size. For the 35 participants who chose the same memory, the pre-first intervention and the post-second intervention data showed an overall Hedges' g of 3.80, again a large effect size. Twenty-nine participants did not report their results in the second session. For details of Manfield's study, readers are referred to his 2021 article.

## Model for Flash Technique and Implications

In the original formulation of FT (Manfield et al., 2017), Manfield asked clients to focus on a positive memory or PEF and then revisit their traumatic memory when prompted, but so fast that they would not be able to see or feel the memory. The metaphor suggested by Manfield was moving a finger quickly over a flame, so fast that the person would not feel the pain. Manfield compared the original version of FT with Kinowski's paired titration (2003). Kinowski first helped the client develop a connection with a resource image that made the client feel more resilient and then instructed the client to limit his or her exposure to the traumatic material by telling him or her to go just to the edge of the trauma. In FT, the PEF might be the equivalent to Kinowski's resource image. Instead of going just to the edge of the trauma, clients were instructed to limit their exposure to the memory by accessing the traumatic memory so fast that they could not really see or feel the memory. Manfield also suggested that FT might be similar to subliminal messaging because the access to the memory was so brief such that the client was not aware of the content or emotions associated with the memory. Later, Manfield simplified the FT protocol by having clients blink three to five times when prompted, instead of having to briefly access the traumatic memory (Manfield & Engel, 2018). The new FT is much more user-friendly to clients, but at the same time, it presents a challenge to come up with an explanation for how it works.

In a recent article, Wong (2021) proposed a model for the Flash Technique which may explain how FT could lead to processing of traumatic memories, without the client consciously trying to process the memory. Wong's model was based on the current understanding of neuroscience supported by fMRI data in the published literature, as well as well-known concepts in working memory research, as follows.

First, there are two independent threat detection systems in the brain: a) the PFC-amygdala system which is regulated by the prefrontal cortex (PFC) and is mediated by catecholamines (Arsten et al., 2015). This system is responsible for the fight, flight and freeze response and, by and large, within the awareness of the client; and b) a fast, reflexive threat detection system based on the periaqueductal gray of the brain stem (Terpou, Densmore, Theberge et al., 2019; Terpou, Densmore, Thome, et al., 2019), outside of the awareness of the client and may be involved in neuroception (Porges, 2009) or "gut feeling." Secondly, symptoms of PTSD may be due to abnormal overactivation of brain structures and connectivity between brain structures (Nicholson, et al., 2016). For clients with PTSD, the periaqueductal gray may be overactivated and there may be enhanced connectivity between the periaqueductal gray and the amygdala and between the amygdala and the left hippocampus. Furthermore, the periaqueductal gray, the amygdala, and the left hippocampus can all be triggered subliminally (Sakamoto et al., 2005; Terpou, Densmore, Thome, et al., 2019; Whalen et al., 1998). The enhanced connectivity between an overactivated periaqueductal gray and amygdala, may result in a constant state of threat and hypervigilance/ hyperarousal in PTSD clients; and the enhanced connectivity amongst the periaqueductal gray, amygdala, and left hippocampus may result in the left hippocampus getting triggered when the periaqueductal gray is triggered. Since the hippocampus is responsible for autobiographical and episodic memory, this may lead to flashbacks and intrusive thoughts when the periaqueductal gray is triggered and when it reacts reflexively. Thirdly, the brain has three large structures, interconnected brain regions that tend to activate together (Lanius et al., 2015): The central executive network (CEN), which is responsible for goal-oriented tasks, the default mode network, which is the network that takes over when the CEN is not working on a task, and the salience network, which is responsible for salience detection and directs the brain

towards the most pertinent action. It should be noted that, as the fast, reflexive threat detector, the periaqueductal grey plays a major role in the salience network, in determination of salience. In addition, fMRI data (Nakano et al., 2013) have shown that the brain can switch momentarily during spontaneous blinking, from the CEN when the brain focuses on a task to the default mode network when it is not focused on any task in particular, in other words, take a break, and then back to the CEN and the task on hand, without the awareness of the subject.

In addition, Wong's model also draws from two concepts in working memory research. First, the brain can hold multiple pieces of information in the working memory and keep them at different levels of activation (D'Esposito & Postle, 2015). Thus, a piece of information does not immediately disappear from the working memory if the brain focuses on another piece of information, but would stay in the working memory for some time at a lower level of activation and readily accessible. Secondly, there is the concept of salience, i.e., the brain tends to pay more attention to memories with high emotional content, both positive and negative (Tyng et al., 2017).

Based on the current understanding in neuroscience, Wong proposed a model for FT, summarized in three parts: Set-up, brief access to traumatic memory, and memory reconsolidation, as follows:

1) Set-up. By thinking or talking about a certain subject, that subject was put into the working memory during the process. Thus, by identifying a traumatic memory to be processed, the clients may have effectively put a reminder of the memory in the working memory. Since the clients do not dwell on the traumatic memory, they have not accessed the memory and thus can remain calm. Since the brain can hold multiple pieces of information in the working memory at different levels of activation, the reminder of the traumatic memory may stay in the working memory at some level of activation, even as clients focus their attention on a positive engaging focus (PEF). This is a subtle but significant point in Wong's model.
2) Brief Access to Traumatic Memory. When the clients focus their attention on their PEF, this act engages the central executive network to pay attention to the PEF. During the blink of the eye, the brain takes a quick break from the task at hand (Nakano et al., 2013). Instead of switching to the default mode network, Wong proposes that, due to the emotional content/salience of the traumatic memory, the salience network, with the overactivated periaqueductal gray as the detector, may reflexively pick up the reminder of the traumatic memory in the working memory, before switching back to the PEF, all without the awareness of the client. During this brief moment, due to the enhanced connectivity in the periaqueductal gray-amygdala-left hippocampus circuit, the brain may briefly access the traumatic memory via the left hippocampus.
3) Memory Reconsolidation. During the brief moment of blinking, the PFC-amygdala circuit does not have time to go into the fear response and the amygdala remains regulated by the PFC. This sets up a juxtaposition of a traumatic memory with a regulated amygdala and no fear response. The juxtaposition of a traumatic memory with no fear response may then set up the prediction error necessary for memory reconsolidation (Ecker, 2018).

New learning and memory reconsolidation may, with repeated blinking, result in reduction of distress and development of a present-moment, adult perspective to the memory. While Wong's model is built on the current understanding of neuroscience and working memory research, it is a hypothesis that needs to be verified experimentally with fMRI measurements.

### Implications of Wong's Model for FT

In Wong's model, the basic mechanism is the periaqueductal gray/salience network picking up the reminder of the traumatic memory, quickly and reflexively during blinking, accessing the traumatic memory via the left hippocampus while the amygdala remains calm. The model does not call for bilateral stimulation (BLS), and thus, BLS is not an essential part of FT, according to this model. In addition, Wong's model is based on fMRI data from spontaneous blinking (Nakano et al., 2013). Thus, the basic mechanism for FT should be present during spontaneous blinking, implying that processing with FT can occur based only on spontaneous blinking, without any prompts from the clinician.

## Vignettes

Currently, the standard practice of FT involves both bilateral stimulation (bilateral tapping) and prompts for blinking. In a FT group for substance abusers in a homeless shelter, Wong (2019) demonstrated that the emotional disturbance of traumatic memories could be reduced with FT but without bilateral stimulation, and substantial reduction in PTSD symptoms can occur over a few weeks of FT group therapy. However, there is currently no published data demonstrating that FT can be done without prompted blinking. In the following section, we offer two vignettes which

show that FT, without BLS and without prompted blinking, can be effective in reducing the emotional disturbance of traumatic memories. Both cases were done online due to the COVID-19 pandemic.

## Vignette #1

April (not her real name) was single and in her late 40s, with significant abandonment issues. April had attended psychotherapy for more than 10 years and had been diagnosed with PTSD. She was molested by a family member at a young age and found the bilateral tapping, e.g., tapping the thighs or the butterfly hug, triggering. She also found the prompts for blinking jarring as she tried to focus on the PEF but was able to do FT with spontaneous blinking.

In one session in the beginning phase of her treatment, April shared that she had a big argument with her boyfriend. She was jealous of his spending a lot of time with friends in a hobbyist group and she found it difficult to control her anger. They agreed to meet during the weekend to talk about his spending too much time, from her perspective, with the hobbyist group and she wanted to deal with her anger before seeing her boyfriend.

April imagined the worst-case scenario with her boyfriend and tried to process it with FT, using slow breathing and a body scan as the PEF, focusing her eyes on a floral decoration on her mantel. Initially, April tried to use prompted blinking for FT but, again, found that uncomfortable, and she continued FT with spontaneous blinking. The negative cognition was, "It is overwhelming and I cannot handle it." April was able to bring the SUDS from 9 or 10 to about 2 but then the reduction in SUDS stopped. Since April had already identified her negative cognition, the therapist continued to Phase 4–7 of EMDR with bilateral eye movements with April holding the worst-case scenario. For the bilateral eye movement, she followed a computer-generated moving ball on her computer screen. April was then able to process her worst-case scenario to a SUD score of 0 after a few minutes of bilateral eye movement and her positive cognition, "I can handle it," was 100% true. The meeting with her boyfriend went well enough that they decided to seek pre-marital couple's counseling to work on their issues.

It should be noted that for FT, the therapist typically does not ask for the negative cognition which is in Phase 3 of the EMDR protocol. However, in the case of April, the therapist anticipated that they might have to switch to EMDR at some point in time. Asking for the negative cognition was based on the clinical judgment of the therapist for this client to facilitate a smooth transition from FT to EMDR.

The use of slow breathing and body scan is a variation of using slow breathing and body movement used as a PEF by Wong (2019) in a group for dissociation-prone substance abusers in a homeless shelter. The slow breathing and body scan in this PEF provide grounding and tend to keep the client from dissociating. The PEF tends to calm the client when the person is agitated. It was chosen by the therapist based on April's presentation in session.

## Vignette #2

Maggie (not her real name) was a single female in her early 40s. She had attended therapy in the past to address trauma related to an adverse vaccine experience which resulted in near death, hospitalization, and a long recovery, and met criteria for PTSD. Maggie addressed this trauma using the standard EMDR therapy protocol and had declined to utilize the FT due challenges with her eyes and feeling uncomfortable blinking, a result of the hospitalization. She was able to successfully complete treatment for her adverse vaccine experience, no longer met the criteria for PTSD but continued to have a diagnosis of generalized anxiety disorder. During the COVID-19 pandemic, Maggie began to experience high anxiety related to the need to be vaccinated. She agreed to work on the anxiety related to the scheduled COVID-19 vaccine appointment using the FT but with no blinking or BLS. During the FT process, Maggie chatted with the therapist about food, cooking and her favorite television shows and used this discussion as her PEF. She reported an initial SUD score of 7 and after 20 minutes reported relief and a SUD score of 4. She shared that her anxiety to take the vaccine was manageable. The therapist then engaged Maggie in completing a standard Future Template in which she imagined going to the vaccination site and receiving the vaccine. At the session a week later (and before receiving the shot), the therapist reevaluated the SUD score and Maggie reported it to be a 2. Maggie declined to work on it further, reporting that it was ecologically sound due to her prior vaccination experience. She successfully obtained the shot in the following week and reported minimal anxiety going through the vaccination. Maggie continued in therapy and, in a session 6 months later, reported that she would be receiving her COVID-19 booster shot. The therapist checked in on the SUD regarding this and Maggie reported it being a 2, and feeling manageable. Subsequently, she successfully received the booster and reported minimal anxiety.

## Discussion

In this article, we offer two vignettes showing that FT can be done successfully with no bilateral tapping and no prompted blinking. The results are consistent with Wong's model, which is based on fMRI data from spontaneous blinking.

This study is not an exhaustive study using various known PEFs but only aims to offer two data points to support one aspect of Wong's hypothesis. It should be noted that back in the early days, the PEF used in FT was just a positive memory that was engaging. Over time, clinicians developed other engaging PEFs, such as music, videos, and talking instead of thinking about positive activities, such as hobbies and vacations. Other clinicians developed PEFs, such as slow breathing and movement or slow breathing and body scan for dissociation-prone clients. In this pilot study, we used two vignettes using two different PEFs to show that FT could be done without BLS and without prompted blinking.

It should also be emphasized that the authors are not advocating the elimination of bilateral tapping and prompts for blinking from the practice of FT. Even if it is proven that bilateral tapping and prompted blinking are not absolutely needed in the practice of FT, one can still consider these two practices as additional aids to enhance the efficacy of FT. If processing occurs during blinking, then having prompted blinking, in addition to spontaneous blinking, may make the processing faster. Furthermore, it has been shown that bilateral eye movement can down-regulate the amygdala, via a dorsal frontoparietal network and a ventromedial prefrontal pathway. Down-regulation of the amygdala, in turn, can enhance fear extinction learning (De Voogd et al., 2018). Since bilateral tapping and bilateral eye movement are both used and shown to be effective in EMDR therapy, it is likely that bilateral tapping will also have a calming effect on the amygdala. In Wong's model, the mechanism for FT is repeated momentary juxtaposition of a regulated amygdala with a traumatic memory. Thus, there is good reason to continue the usage of bilateral tapping in FT, given the possible calming effect.

## Limitations

The article is a pilot study to explore the limits of a recent model for FT. It involves a small sample of two vignettes. It shows that FT can still work without BLS and prompted blinking, thus providing support for one aspect of Wong's model. We recognize that in April's case, the therapist asked for the negative cognition early in the process, which may confound the results for that case. While our results provide a starting point, it will have to be scaled up to a much larger sample size, with the clinical trials performed to the current standard of clinical research, to give more credence to this aspect of Wong's model.

## Conclusion

This article presents two vignettes supporting one of the implications of Wong's model for FT, namely, bilateral stimulation and prompted blinking are not critical to the basic mechanism of FT. While this article is a pilot study of two vignettes, it is hoped that other clinicians and researchers can do further studies to verify this aspect of the model.

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