

In the United States Court of Federal Claims

No. 09-585 V
(Filed December 19, 2013)¹

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LAMONA DODD, parent of S.S.,
a minor,

Petitioner,

v.

SECRETARY OF HEALTH AND
HUMAN SERVICES,

Respondent.

* * * * *

Vaccine Injury; National
Childhood Vaccine Injury Act of
1986, 42 U.S.C. §§ 300aa-1 to -
34 (2006); Proof
of Causation; Whether Petitioner
Established a Logical Sequence
of Cause and Effect.

Ronald C. Homer, Boston, MA, for petitioner.

Voris E. Johnson, Jr., United States Department of Justice, with whom were
Stuart F. Delery, Assistant Attorney General, *Rupa Bhattacharyya*, Director,
Vincent J. Matanoski, Deputy Director, *Catharine E. Reeves*, Assistant Director,
Washington, DC, for respondent.

OPINION AND ORDER

Bush, *Senior Judge*.

^{1/} Pursuant to Rule 18(b) of Appendix B of the Rules of the United States Court of Federal Claims, this Opinion and Order was initially filed under seal on November 25, 2013. Pursuant to ¶ 4 of the ordering language, the parties were to propose redactions of the information contained therein on or before December 13, 2013. No proposed redactions were submitted to the court.

Now pending before the court is petitioner's motion for review of the Chief Special Master's June 5, 2013 final decision (Dec.) denying Ms. Lamona Dodd's petition for compensation under the National Childhood Vaccine Injury Act of 1986, 42 U.S.C. §§ 300aa-1 to -34 (2006) (the Vaccine Act).² The court relies on the record of underlying proceedings in this matter,³ as well as petitioner's motion for review (Pet.'s Mot.) and respondent's response to that motion (Resp.'s Resp.).⁴ For the reasons stated below, the court denies petitioner's motion for review and affirms the decision of the Chief Special Master.

BACKGROUND

I. Factual History⁵

Lamona Dodd's son S.S. was healthy at birth, suffered common childhood ailments and received normal childhood immunizations. Dec. at 4-5. At age four, he received three vaccinations on October 1, 2007: measles-mumps-rubella (MMR), Diphtheria-Tetanus-acellular-Pertussis (DTaP) and Polio. Ex. 11 at 6. Only the MMR vaccine, and, in particular, its measles vaccine component,

^{2/} The re-captioned, redacted public version of the Chief Special Master's decision, issued on June 21, 2013, is the one cited to in this opinion. The page references are to the version found on this court's website; the decision is also available at *Dodd v. Sec'y of Health & Human Servs.*, No. 09-585V, 2013 WL 3233210 (Fed. Cl. Chief Spec. Mstr. June 5, 2013); *Dodd v. Sec'y of Sec'y of Health & Human Servs.*, No. 09-585V, 2013 U.S. Claims LEXIS 701 (Fed. Cl. Chief Spec. Mstr. June 5, 2013). The Chief Special Master's decision provides a more detailed examination of the circumstances of the vaccine injury alleged in the petition and an explanation of medical terms relevant to this case.

^{3/} Petitioner's exhibits in this case are numbered (Exs. 1-18, 18-A through 18-I, 19-20, 20-A through 20-E, 21-24), whereas respondent's exhibits are marked alphabetically (Exs. A, A-1 through A-3, B).

^{4/} Petitioner's memorandum in support of her motion for review was first filed on July 5, 2013, as an attachment to a motion to exceed page limits, and again on July 10, 2013 as a separate docket entry. All citations to petitioner's motion for review are to the memorandum of law filed on July 10, 2013.

^{5/} The chronology recounted here is largely undisputed, although the parties dispute the significance of certain well-established facts.

are at issue in petitioner's theory of vaccine injury causation.

According to his mother, about a week after the vaccination S.S. experienced coughing accompanied by fever, but continued to attend preschool. Ex. 12 at 1. On October 15, 2007, however, S.S. was brought to the emergency room where he presented, without a fever, as follows:

This is a 4-year-old African American male who was brought to the emergency room by his mom with history that the child became sick this evening, complained of a headache, abdominal pain, and probably had total of about 6 episodes of vomiting. Had one episode of diarrhea and urinary incontinence. [He] was thought beginning about 8 p.m. to be having some seizure activity. No prior history of seizures and child has some history of chronic illness. The mom said that the seizures would start, last [a] few minutes and go away, and he would be able to talk between the episodes but was not himself.

Ex. 3 at 169. The hospital staff noted at the time that there was some family history of seizures.⁶ *Id.*

S.S. was discharged the next day on anti-seizure medication. The parties dispute the severity of the seizures experienced by S.S. on October 15, 2007, although certain facts are undisputed. As noted by petitioner's expert, on October 15, 2007 S.S. exhibited several episodes of "staring spells," a "left focal tonic-clonic seizure" that lasted a couple of minutes, "left-sided postictal paralysis," and his EEG showed "subtle slowing intermittently throughout the right

⁶/ The medical records of S.S. as a whole reflect that a maternal great-aunt or aunt had an onset of seizures in her childhood and suffered from epilepsy. *See* Ex. 3 at 169; Ex. 7 at 4, 94; Ex. 8 at 10; Ex. 14 at 4, 17; *see also* Ex. 18 at 1 (petitioner's expert report noting that S.S.'s "family history was void of neurological disorders except for a maternal great-aunt with epilepsy"). *But see* Ex. 3 at 177 (hospital physician notes stating that S.S. had "no family history of seizures").

hemisphere.”⁷ Ex. 18 at 1. The etiology of these “[n]ew onset seizures” was unclear to his treating physicians. *See, e.g.*, Ex. 3 at 169-70; Ex. 7 at 93; Ex. 14 at 11. None of the medical personnel treating S.S. hypothesized a causal link between the vaccinations that took place on October 1, 2007 and his subsequent diagnosis of epilepsy, although petitioner raised this issue in various treatment settings.

Unfortunately, two elements of the discharge plan developed on October 16, 2007 were not accomplished. S.S. stopped taking his anti-seizure medications and he was not seen for a neurological follow-up. Instead, S.S. was seen again in the emergency room, on December 9, 2007, for seizure activity of far greater severity than the seizure activity experienced on October 15, 2007. Hearing Transcript (Tr.) at 13, 66, 83-84, 95-96, 98, 110.

S.S. was kept in the hospital for two days to bring his seizures under control. Upon follow-up, he was diagnosed with secondary general epilepsy. Further doctor visits followed, both scheduled and emergent in nature. Several changes to his seizure medications were made. During the next few months, S.S. was noted to have developmental delays and hyperactivity problems. Although S.S. eventually controlled his seizures through medication, he has been placed in a special education program.

II. Procedural History

Ms. Dodd filed a petition under the Vaccine Act on September 4, 2009 alleging that the vaccinations S.S. received on October 1, 2007 caused S.S. to develop epilepsy and developmental delays. Pet.’s Mot. at 1-2. Petitioner retained Dr. Marcel Kinsbourne as an expert while respondent retained Dr. John T. MacDonald; both physicians filed expert reports regarding the petition. Upon request, the Chief Special Master allowed petitioner to file a supplemental expert report from Dr. Kinsbourne.

A hearing was scheduled to be held in Boston, Massachusetts on March 18, 2011. Petitioner had thus far relied upon fourteen medical articles; respondent had

⁷/ The left-sided postictal paralysis was not complete – his condition was also described as left-sided hemiparesis or weakness, which resolved before S.S. was discharged. *See* Ex. 3 at 167, 178. The term “postictal” refers to the post-seizure state.

relied upon three medical articles. In her pre-hearing order, the Chief Special Master required that each party denote the significance of any medical articles relied upon by that party:

Any party wishing to rely upon a medical article is directed to file simultaneously a short explanation of the proposition that the article is intended to support. . . . This explanation may be encompassed in a pre-hearing memorandum, or may appear in a separate document.

Order of January 18, 2011. Respondent provided the required explanation; petitioner did not:

Dr. Kinsbourne, as S.S.'s medical expert, is more qualified than petitioner's counsel to explain the medical articles that support his medical theory. As such, Dr. Kinsbourne will address the proposition that the medical articles intend to support at the hearing.

Pet.'s February 28, 2011 Resp. to January 18, 2011 Order, at 4 n.4.

The hearing transcript shows that each party had ample opportunity to elicit testimony from the experts. A post-hearing briefing schedule was established. Petitioner filed her brief first (Pet.'s Post-Hr'g Br.), respondent filed the next brief (Resp.'s Post-Hr'g Br.), and petitioner concluded the briefing (Pet.'s Post-Hr'g Reply). The Chief Special Master's decision was filed on June 5, 2013, and was later redacted to remove the child's name and birth date and re-captioned to reflect the name change of petitioner. *See supra* note 2.

The Chief Special Master held that petitioner had failed to establish a prima facie case of vaccine injury causation. In her motion for review, petitioner has raised four specific objections to the decision denying her compensation under the Vaccine Act. The holdings of the Chief Special Master denying petitioner entitlement to compensation, and the objections thereto, will be addressed in the Analysis section of this opinion. The court turns now to the standard of review applicable here.

DISCUSSION

I. Standard of Review

This court has jurisdiction to review the decision of a special master in a Vaccine Act case. 42 U.S.C. § 300aa-12(e)(2). “Under the Vaccine Act, the Court of Federal Claims reviews the decision of the special master to determine if it is ‘arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law[.]’” *de Bazan v. Sec’y of Health & Human Servs.*, 539 F.3d 1347, 1350 (Fed. Cir. 2008) (quoting 42 U.S.C. § 300aa-12(e)(2)(B) and citing *Althen v. Sec’y of Health & Human Servs.*, 418 F.3d 1274, 1277 (Fed. Cir. 2005)); *see also Hanlon v. Sec’y of Health & Human Servs.*, 191 F.3d 1344, 1348 (Fed. Cir. 1999) (“Under the Vaccine Act, the Court of Federal Claims may not disturb the factual findings of the special master unless they are ‘arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.’” (quoting 42 U.S.C. § 300aa-12(e)(2)(B))). This court uses three distinct standards of review in Vaccine Act cases, depending upon which aspect of a special master’s judgment is under scrutiny:

These standards vary in application as well as degree of deference. Each standard applies to a different aspect of the judgment. Fact findings are reviewed . . . under the arbitrary and capricious standard; legal questions under the “not in accordance with law” standard; and discretionary rulings under the abuse of discretion standard.

Munn v. Sec’y of Dep’t of Health & Human Servs., 970 F.2d 863, 870 n.10 (Fed. Cir. 1992).

The arbitrary and capricious standard of review is used to consider factual findings by the special master. *Id.* The scope of this review is limited, and highly deferential. *Lampe v. Sec’y of Health & Human Servs.*, 219 F.3d 1357, 1360 (Fed. Cir. 2000); *Burns by Burns v. Sec’y of Dep’t of Health & Human Servs.*, 3 F.3d 415, 416 (Fed. Cir. 1993). “If the special master has considered the relevant evidence of record, drawn plausible inferences and articulated a rational basis for the decision, reversible error will be extremely difficult to demonstrate.” *Hines ex rel. Sevier v. Sec’y of Dep’t of Health & Human Servs.*, 940 F.2d 1518, 1528 (Fed. Cir. 1991); *see also Burns*, 3 F.3d at 416. This court’s review of the fact findings

of a special master under the arbitrary and capricious standard is “well understood to be the most deferential possible.” *Munn*, 970 F.2d at 870 (citations omitted). When the court’s review of a special master’s decision involves statutory construction or other legal issues, the “not in accordance with law” standard is applied. *Hines*, 940 F.2d at 1527. The third standard of review, abuse of discretion, is applicable when a special master excludes evidence or otherwise limits the record upon which she relies. *See Munn*, 970 F.2d at 870 n.10.

II. Burden of Proof in an Off-Table Vaccine Injury Case

There are two distinct avenues for recovery under the Vaccine Act. *See* 42 U.S.C. § 300aa-11(c). First, a petitioner who has received a vaccination listed on the Act’s Vaccine Injury Table (Vaccine Injury Table or Table) may recover for any resulting illness, disability, injury or condition that is also listed on the Table, or a significant aggravation thereof. *Id.* § 300aa-11(c)(1)(C)(i); *see also id.* § 300aa-14(a); 42 C.F.R. § 100.3 (2012) (current version of the Vaccine Injury Table). Second, a petitioner who has received a vaccination listed on the Table, but whose vaccine-related injuries do not meet Table requirements, may recover under the “off-Table” theory of recovery. 42 U.S.C. §§ 300aa-11(c)(1)(C)(ii), 300aa-13(a)(1)(A). Under this theory, a petitioner may make out a prima facie case of entitlement to compensation by showing, by a preponderance of the evidence, that a Table vaccine actually caused the petitioner to sustain an illness, disability, injury or condition which is not listed on the Table, or that first appeared outside the time limits set by the Table. 42 U.S.C. § 300aa-11(c)(1)(C)(ii); *Pafford v. Sec’y of Health & Human Servs.*, 451 F.3d 1352, 1355 (Fed. Cir. 2006).

A petitioner such as Ms. Dodd who hopes to recover for an off-Table claim must establish causation-in-fact. *See* 42 U.S.C. §§ 300aa-11(c)(1)(C)(ii), 300aa-13(a)(1); *Pafford*, 451 F.3d at 1355. This requires “preponderant evidence both that [the] vaccination[] [was] a substantial factor in causing the illness, disability, injury or condition and that the harm would not have occurred in the absence of the vaccination.” *Pafford*, 451 F.3d at 1355 (citing *Shyface v. Sec’y of Health & Human Servs.*, 165 F.3d 1344, 1352 (Fed. Cir. 1999)). The vaccination “must be a ‘substantial factor’” in bringing about the injury, but “it need not be the sole factor or even the predominant factor.” *Id.* at 1357 (quoting *Shyface*, 165 F.3d at 1352-53).

The United States Court of Appeals for the Federal Circuit has summarized

the evidentiary burden associated with causation-in-fact in off-Table cases. The Federal Circuit explained that a petitioner who wishes to demonstrate that a vaccination brought about an injury must present:

- (1) a medical theory causally connecting the vaccination and the injury;
- (2) a logical sequence of cause and effect showing that the vaccination was the reason for the injury;
- and (3) a showing of a proximate temporal relationship between vaccination and injury.

Althen, 418 F.3d at 1278. These three factors required to prove causation-in-fact in Vaccine Act cases are now commonly referred to as the three *Althen* prongs.

As to the evidence related to the three factors, “these [*Althen*] prongs must cumulatively show that the vaccination was a ‘but-for’ cause of the harm, rather than just an insubstantial contributor in, or one among several possible causes of, the harm.” *Pafford*, 451 F.3d at 1355. Further, “[a]lthough probative, neither a mere showing of a proximate temporal relationship between vaccination and injury, nor a simplistic elimination of other potential causes of the injury suffices, without more, to meet the burden of showing actual causation.” *Althen*, 418 F.3d at 1278 (citing *Grant v. Sec’y of Dep’t of Health & Human Servs.*, 956 F.2d 1144, 1149 (Fed. Cir. 1992)). It is likewise critical to recognize that the special master may not make a finding of causation that is based on the claims of a petitioner alone, which are not substantiated by medical records or by medical opinion. *See* 42 U.S.C. § 300aa-13(a)(1). Thus, the presentation of medical records or medical opinion supporting a claim is a prerequisite to recovery. *Id.* Only if a petitioner presents adequate evidence on the three essential aspects of causation, and thus makes a prima facie case for liability, does the burden shift to the Secretary to prove, also by a preponderance of the evidence, an alternate cause of the alleged injury. *Althen*, 418 F.3d at 1278; *de Bazan*, 539 F.3d at 1352 (citations omitted). When a petitioner seeks to demonstrate causation-in-fact by meeting the three *Althen* requirements, each of those requirements must be proven by a preponderance of the evidence. *See de Bazan*, 539 F.3d at 1351-52.

III. Causation of S.S.’s Epilepsy and Developmental Delays

A. Petitioner Met Her Burden for *Althen* Prongs One and Three

1. *Althen* Prong One

Althen Prong One requires that “a claimant’s theory of causation . . . be supported by a reputable medical or scientific explanation.” *Broekelschen v. Sec’y of Health & Human Servs.*, 618 F.3d 1339, 1351 (Fed. Cir. 2010) (internal quotations and citations omitted). Here, petitioner proposed a medical theory based on Dr. Kinsbourne’s expert reports and his testimony at the hearing. Pet.’s Post-Hr’g Br. at 18-23. Petitioner also asserted that Dr. MacDonald conceded that certain key elements of that theory were indeed valid. *Id.* at 23-24.

Simply put, petitioner’s medical theory rests on the assumption that “the measles component of the MMR vaccine is essentially the same as the wild virus that leads to . . . measles.” *Id.* at 19. According to Dr. Kinsbourne, “it would be logical to conclude that the measles vaccine, a weakened version of the natural disease, can cause the same types of symptoms and adverse events as the natural disease,” including seizures and encephalopathies. *Id.* In turn, seizures and anti-seizure medication regimens can cause developmental delays and behavior problems such as hyperactivity, according to petitioner’s expert. *Id.* at 21-22. Thus, the measles component of the MMR vaccine, according to this theory, can cause epilepsy and subsequent developmental delays, even though a precise biological mechanism has not been identified.

Based on a preponderance of the evidence, the Chief Special Master found that petitioner had met her burden under *Althen* Prong One to establish a “reputable, reliable and biologically plausible” medical theory of causation for epilepsy and developmental delays. Dec. at 29-30. The analysis of *Althen* Prong One provided in the Chief Special Master’s decision is thorough, logical and detailed. The court reviews this factual finding with great deference. *See, e.g., Munn*, 970 F.2d at 870. Under the standard of review required here, the Chief Special Master’s holding as to *Althen* Prong One must be affirmed.⁸

⁸/ The court notes that the government mounted a vigorous challenge to the medical theory proposed by Dr. Kinsbourne in the Secretary’s post-hearing brief. Resp.’s Post-Hr’g Br. at 10-18. Nothing in the record before the court establishes that the Chief Special Master’s ruling on *Althen* Prong One was arbitrary or capricious. In its brief opposing petitioner’s motion for review, the government does not renew its attack against Dr. Kinsbourne’s medical theory or challenge the Chief Special Master’s finding as to *Althen* Prong One.

2. *Althen* Prong Three

a. **Petitioner Met Her Burden of Proof to Establish a Proximate, Medically-Acceptable Temporal Relationship**

Althen Prong Three “requires preponderant proof that the onset of symptoms occurred within a timeframe for which, given the medical understanding of the disorder’s etiology, it is medically acceptable to infer causation-in-fact.” *de Bazan*, 539 F.3d at 1352. Here, two weeks elapsed between the date of the MMR vaccination and the onset of S.S.’s seizures. According to petitioner, “two weeks is an appropriate temporal relationship between the MMR vaccine and a seizure disorder to occur.” Pet.’s Post-Hr’g Br. at 30. In Dr. Kinsbourne’s first expert report, he asserted that “[s]eizure onset within two weeks after MMR vaccination is a well-recognized adverse reaction to this vaccination.” Kinsbourne Report at 2.

As support for this assertion, Dr. Kinsbourne testified that certain medical articles noted adverse events such as seizures that have occurred in this time-frame after MMR vaccination. Tr. at 15-16. He also testified that the presence of the wild measles virus in the blood peaks (peak viremia) during the second week following exposure. *Id.* at 25-26, 60-61. Petitioner noted, too, that a five to fifteen day onset of encephalitis or encephalopathy after MMR vaccination is the time-frame specified in the Vaccine Injury Table. Pet.’s Post-Hr’g Br. at 31. For all of these reasons, petitioner asserted that Ms. Dodd had established a “proximate temporal relationship between the vaccine and the injury” so as to satisfy *Althen* Prong Three. *Id.* at 29.

The Chief Special Master agreed. *See* Dec. at 32-33 (stating that “petitioner relied primarily on a proximate temporal relationship which she proved and . . . the undersigned is persuaded that petitioner has satisfied the . . . third prong[] of the *Althen* test”). The Chief Special Master considered the opinion of Dr. Kinsbourne as to the timing of onset of the alleged vaccine injury and concluded that Ms. Dodd had proved by a preponderance of the evidence that there was the required proximate temporal relationship between the MMR vaccination and S.S.’s epilepsy and developmental delays. *See id.* at 4, 11-13, 21-22, 24, 32-33. The Chief Special Master also noted that respondent had not mounted any challenge to petitioner’s evidence regarding *Althen* Prong Three. *See id.* at 28 (“Respondent does not dispute that petitioner has established a temporal relationship between the

administered MMR vaccine and thus, has satisfied the third *Althen* prong.”). The court sees no reason, under the deferential standard of review applicable here, to disturb the Chief Special Master’s finding as to *Althen* Prong Three.

b. Petitioner Criticizes the Chief Special Master’s “Failure to Address” the Temporal Relationship

One of petitioner’s four challenges to the Chief Special Master’s denial of her petition is a critique of the Chief Special Master’s consideration of the temporal relationship between the MMR vaccination and S.S.’s alleged vaccine injuries. In petitioner’s view, the Chief Special Master committed reversible error by not adequately addressing *Althen* Prong Three, the proximate temporal relationship prong of the causation analysis. Pet.’s Mot. at 27. It is obvious that petitioner does not seek to overturn the Chief Special Master’s favorable ruling on *Althen* Prong Three; instead, Ms. Dodd appears to attack the weight accorded to the proximate temporal relationship in the Chief Special Master’s overall causation analysis.

Perhaps recognizing that her petition depends largely on the proximate temporal relationship between the MMR vaccination and S.S.’s seizures, Ms. Dodd has repeatedly emphasized that evidence relevant to one *Althen* prong can be applied to the analysis of another *Althen* prong. See, e.g., Petition at 20 (stating that “evidence used to satisfy one prong of the test may overlap to satisfy another prong” (citing *Capizzano v. Sec’y of Health & Human Servs.*, 440 F.3d 1317, 1326 (Fed. Cir. 2006)); Pet.’s Post-Hr’g Br. at 26 (asserting that *Althen* Prong Two is satisfied because, among other reasons, “the symptoms of [S.S.’s] injury occurred within a medically appropriate time after the MMR vaccine”); Pet.’s Post-Hr’g Reply at 11 (stating that because petitioner has proven a “scientifically appropriate temporal relationship between [S.S.’s] MMR vaccine and the onset of his symptoms [and other elements, she] has satisfied *Althen* prong 2”); Pet.’s Mot. at 18 (describing the fact “that the onset of symptoms was within an appropriate time period” as a critical factor in the *Althen* Prong Two analysis). Petitioner would have preferred, it appears, that the Chief Special Master had given more weight to the proximate temporal relationship between the MMR vaccination and the onset of S.S.’s seizures in her analysis of *Althen* Prong Two. See Pet.’s Mot. at 18 (asserting that the Chief Special Master “apparently gave no probative value” to factors such as the proximate temporal relationship between the vaccination and the alleged injury in her *Althen* Prong Two analysis), 28 (stating that “the Chief

Special Master trivialized the probative significance of . . . an appropriate temporal relationship between the MMR vaccine and the onset of S.S.’s symptoms”), 29 (alleging that “the existence of an appropriate temporal relationship – not too soon or too late – is highly probative” for the causation analysis). Although petitioner concedes that “the existence of a strong temporal relationship between a vaccine and an injury, by itself, is not proof of causation,” she apparently disagrees with the significance accorded the proximate temporal relationship issue by the Chief Special Master in this case. *Id.* at 29.

Respondent argues that the Chief Special Master afforded adequate attention to *Althen* Prong Three, Resp.’s Resp. at 13, and the court must agree. The decision evinces adequate attention to the chronology of relevant events and to Dr. Kinsbourne’s arguments regarding the appropriate timing of the onset of symptoms in this case. *See* Dec. at 4-6, 11-13, 21-22, 24, 32-33. Petitioner has not cited to any authority that specifies the degree to which a special master must elaborate upon the subject of an appropriate temporal relationship when the government has not contested *Althen* Prong Three. As for *Capizzano*, 440 F.3d at 1326, which is cited by petitioner for the proposition that evidence may overlap between the *Althen* prongs, the court finds in that decision no standard which requires a more exhaustive review of *Althen* Prong Three and the proximate temporal relationship issue than that provided by the Chief Special Master in her decision in this case. Indeed, the Federal Circuit expressly approved a truncated discussion of this prong when a petitioner had shown a proximate temporal relationship between a vaccination and an alleged vaccine injury. *See Hibbard v. Sec’y of Health & Human Servs.*, 698 F.3d 1355, 1364 (Fed. Cir. 2012) (“The special master acknowledged that the temporal requirement (the third *Althen* factor) was satisfied in this case. He therefore had no need to discuss that factor in any detail.”). For these reasons, the court must reject this particular challenge to the Chief Special Master’s ruling on entitlement.

B. *Althen* Prong Two

The court now addresses two separate but intertwined challenges to the Chief Special Master’s ruling on *Althen* Prong Two, *i.e.*, that the petitioner failed to provide “a logical sequence of cause and effect showing that the vaccination was the reason for the injury.” 418 F.3d at 1278. First, petitioner argues that the new onset seizures on October 15, 2007 were severe enough to lower S.S.’s seizure threshold, giving rise to more severe seizures on December 9, 2007, and that the

Chief Special Master's holding to the contrary, in light of "overwhelming" evidence, was arbitrary, capricious, an abuse of discretion and contrary to law. Pet.'s Mot. at 15, 23. Second, petitioner attacks the Chief Special Master's conclusion that "[o]ther than [the] temporal relationship, there is nothing to suggest that the seizures S.S. suffered on October 15, 2007[] were caused by the measles vaccine.'" *Id.* at 23 (quoting Dec. at 32). This conclusion, according to petitioner, is illogical in the face of the evidence relevant to *Althen* Prong Two that should have been weighed differently by the Chief Special Master. *Id.* at 26-27.

1. Ruling Regarding the Alleged Lowering of S.S.'s Seizure Threshold

a. The Chief Special Master's Finding of Fact

Several portions of the Chief Special Master's decision address petitioner's contention that the October 15, 2007 seizures lowered S.S.'s seizure threshold and made him more susceptible to the severe seizures he experienced on December 9, 2007.⁹ First, the Chief Special Master summarized the divergent views of the experts on this topic. Dr. Kinsbourne, for example, described the new onset seizures as brief and less serious than those that followed in December of that year. Dec. at 14-15 (citing Tr. at 22-23, 37). Dr. Kinsbourne nonetheless insisted that during the October 15, 2007 episode S.S. was in an acute and abnormal neurological state, a condition which caused lasting damage and which lowered S.S.'s seizure threshold. *Id.* at 21 (citing Ex. 20 at 1; Tr. at 65-66, 83-84).

Dr. MacDonald, on the other hand, relied on his current clinical experience and his understanding of relevant literature to testify that the brief seizures experienced on October 15, 2007 did not lower S.S.'s seizure threshold, trigger an acute encephalopathy, cause encephalitis, or result in lasting brain damage. Dec. at 16-18 (citing Tr. at 95-96, 99, 134). Dr. MacDonald noted that the medical records of this event showed no signs that S.S. experienced anything more than a transient episode of brief seizures. *Id.* Although Dr. MacDonald conceded that repetitive

⁹/ The court notes that neither petitioner's post-hearing brief nor petitioner's post-hearing reply brief contained any mention of Dr. Kinsbourne's testimony or opinion that the October 15, 2007 seizures lowered S.S.'s seizure threshold. It is somewhat incongruous that petitioner now seeks review of the Chief Special Master's finding of fact regarding an aspect of petitioner's case that was presented only indirectly for her consideration.

seizures may lower a patient's seizure threshold, he saw no evidence that S.S. experienced seizure activity of such a damaging nature on October 15-16, 2007. *Id.* at 18 (citing Tr. at 117-18, 134).

The Chief Special Master agreed with the clinical assessment of Dr. MacDonald and rejected Dr. Kinsbourne's assertion that S.S.'s seizure threshold was lowered by the October 15, 2007 seizures. Dec. at 32 (citing Tr. at 113). She relied on concessions made by Dr. Kinsbourne on cross-examination and on the testimony of Dr. MacDonald. *Id.* at 31-32. In addition, the Chief Special Master stated that Dr. Kinsbourne used circular logic to demonstrate that S.S.'s seizure threshold was lowered, and that his circular logic was unconvincing. *See id.* at 22 ("In support of his assertion that the seizures S.S. experienced on October 15, 2007[] led to a lowering of his seizure threshold and caused him to suffer seizure events on December 9, 2007 (and thereafter), Dr. Kinsbourne relies heavily on the fact that the later seizures occurred." (citing Tr. at 83-84)).

The Chief Special Master also discussed the sole medical article (Holmes article) relevant to this issue that was proffered by petitioner and that was discussed by the experts during the hearing.¹⁰ Dec. at 27-28. She quoted various statements in the Holmes article that were relevant to the question of whether S.S.'s seizure threshold could have been lowered by the October 15, 2007 seizures. *Id.* at 27. Her analysis of the Holmes article, and of Dr. MacDonald's testimony regarding its content, is more thorough than the brief discussion of this article presented in Dr. Kinsbourne's report. *Compare* Dec. at 27-28, *with* Ex. 18 at 4. In her pre-hearing submissions, petitioner neglected to explain the significance of the Holmes article, *see* Pet.'s February 28, 2011 Response to January 18, 2011 Order,

^{10/} Dr. Kinsbourne did not address any specific statements in this article during the hearing, or reference the article by title or author's name, but may have alluded to the Holmes article obliquely in this statement: "And from any number of studies, scientific studies, including animal models, would show that seizures are capable of lowering seizure thresholds, which is how many epilepsies get set up." Tr. at 84. Dr. MacDonald was extensively cross-examined about the Holmes article. *Id.* at 115-22. Petitioner's counsel also cross-examined Dr. MacDonald about an article (Crino article) that he had attached to his expert report that might have had some tangential relevance to Dr. Kinsbourne's lowered seizure threshold hypothesis. *Id.* at 113-15. The Chief Special Master did not discuss the Crino article, as this article was not one of those primarily relied upon by the parties. *See* Dec. at 22 n.23 ("The parties submitted a total of 17 articles and studies; only those articles on which the parties appeared to rely most heavily are discussed in detail . . .").

at 4 n.4., and in her post-hearing briefing, petitioner failed to cite any testimony from Dr. Kinsbourne on the general topic of the lowering of seizure thresholds and failed to cite the Holmes article for any purpose. The Chief Special Master concluded that the Holmes article, and other articles proffered by petitioner, provided “little or no evidentiary support for [petitioner’s] theory of causation as applied to S.S.’s circumstances.” Dec. at 28.

The Chief Special Master therefore made the following finding of fact:

Dr. Kinsbourne admitted that the seizure event S.S. experienced on October 15, 2007[] consisted of several “staring spells, each lasting for less than a minute” and a seizure that lasted a few minutes. Tr. at 37. Moreover, Dr. Kinsbourne acknowledged that S.S. was “behaving normally and had no neurological symptoms the day after his hospital admission, and that this EEG was consistent with a postictal state and showed no evidence of seizure activity or brain damage. Tr. at 37-39, 41-42. As Dr. M[a]cDonald testified, and the undersigned similarly finds, S.S.’s brief seizure and staring spells on October 15, 2007[] were not of the prolonged and repetitive nature needed to lower S.S.’s seizure threshold. Tr. at 113.

Id. at 31-32.

b. The Parties’ Arguments Regarding the Chief Special Master’s Finding of Fact

Petitioner’s first contention is that the Chief Special Master “mischaracteriz[ed]” and “minimize[d]” the severity of the October 15, 2007 seizures experienced by S.S. Pet.’s Mot. at 18, 21. Citing various portions of the record, petitioner asserts that the “seizure period . . . extend[ed] over 3 hours.” *Id.* at 19-20. Petitioner also cites to Dr. Kinsbourne’s testimony, the Holmes article, the Sutula article (not discussed during the hearing), and certain alleged “concessions” of Dr. MacDonald. *Id.* at 21-23. Describing this cited evidence as “overwhelming,” Ms. Dodd asserts that the Chief Special Master’s finding that the October 15, 2007 seizures did not lower S.S.’s seizure threshold cannot withstand

review.

Respondent counters that there was ample evidence in the record to support the Chief Special Master's finding of fact regarding the duration of the October 15, 2007 seizures and the improbability that these new onset seizures lowered S.S.'s seizure threshold. Resp.'s Resp. at 10-11. The government notes, in particular, that there is no real dispute as to the events of October 15, 2007 and the brief duration of each seizure experienced by S.S. that evening. *Id.* at 11-12. Respondent also notes that the Sutula article was not discussed by either expert during the hearing, and that the Holmes article was not discussed by Dr. Kinsbourne at the hearing; for these reasons respondent argues that petitioner has no reason to complain that the Chief Special Master agreed with Dr. MacDonald, the only expert who testified about specific statements in the relevant scientific literature in the record. *Id.* at 12. Finally, the government argues, the so-called "concessions" of Dr. MacDonald are better described as testimony taken out of context. *Id.*

The issue of the Chief Special Master allegedly ignoring Dr. MacDonald's alleged concessions, Pet.'s Mot. at 23, is quickly resolved. The court agrees with respondent that "Dr. MacDonald was unequivocal in his testimony that S.S.'s brief seizures on October 15, 2007[] were not sufficient to lower his seizure threshold." Resp.'s Resp. at 12. Dr. MacDonald's testimony was accurately summarized by the Chief Special Master in this regard. Dec. at 32 (citing Tr. at 113). The alleged "concessions" of Dr. MacDonald cited by petitioner concern his testimony that seizures can, in some instances, lower seizure thresholds, and that S.S.'s October 15, 2007 and December 9, 2007 seizure episodes might have been related. Tr. at 110-12. The Chief Special Master's decision adequately takes this testimony into account in her analysis of *Althen* Prong Two. Dec. at 27, 31-32.

c. The Chief Special Master's Finding of Fact Survives Review

The Chief Special Master thoroughly analyzed petitioner's causation arguments as they could be applied to S.S.'s alleged injury, as well as the evidence of record. At one point, she described Dr. Kinsbourne's theory of causation as "cobbled" together. Dec. at 22. At another point, she described the evidentiary record as "not close" to meeting petitioner's burden regarding *Althen* Prong Two. *Id.* at 33. Here, as to whether the October 15, 2007 seizures experienced by S.S.

lowered his seizure threshold, the court finds nothing in petitioner’s motion for review, or in the underlying record in this case, to disturb the Chief Special Master’s finding of fact. The court defers, as it must, to the Chief Special Master’s rational weighing of the evidence. *E.g.*, *Munn*, 970 F.2d at 870. It was not, on this record, arbitrary or capricious to find that “S.S.’s brief seizure and staring spells on October 15, 2007[] were not of the prolonged and repetitive nature needed to lower S.S.’s seizure threshold.” Dec. at 32.

Finally, tucked away in a footnote at the end of the argument section of her brief devoted to petitioner’s challenge to this aspect of the Chief Special Master’s decision, Ms. Dodd contends that the Chief Special Master inappropriately required petitioner to “prove the precise mechanism of [S.S.’s] injury, [and thus] elevated [her] proof requirement and violated established Federal Circuit precedent.” Pet.’s Mot. at 23 n.14 (citing *Knudsen by Knudsen v. Sec’y of Dep’t of Health & Human Servs.*, 35 F.3d 543, 549 (Fed. Cir. 1994)). Petitioner’s argument fails because the Chief Special Master did not deny the petition based on petitioner’s failure to identify a precise mechanism of causation.¹¹ Instead, the Chief Special Master tested the proposed mechanism of causation identified by petitioner’s expert and found that the proposed mechanism, as applied to the facts of S.S.’s seizures on October 15, 2007 and December 9, 2007, failed to provide a logical sequence of cause and effect. *See* Dec. at 31 & n.28 (holding that “the theory advanced by Dr. Kinsbourne is not supported by the facts of this case . . . [because] the evidence of record is insufficient to show” a lowering of S.S.’s seizure threshold). The court finds that the Chief Special Master neither impermissibly heightened petitioner’s burden of proof nor violated established Federal Circuit precedent. *See, e.g.*, *Hibbard*, 698 F.3d at 1364 & n.2 (noting that a failure to substantiate a critical step in the logical sequence of cause and effect proposed by the petitioner’s expert is equivalent to a failure to prove *Althen* Prong Two by a preponderance of the evidence); *Moberly v. Sec’y of Health & Human Servs.*, 592 F.3d 1315, 1324 (Fed. Cir. 2010) (rejecting a “proposed mechanism” of causation because the petitioner’s expert “conceded that there was no evidence in the record suggesting that the proposed mechanism was at work in [that] case”).

^{11/} Indeed, the Chief Special Master cited *Knudsen* for the rule of law relied upon by petitioner for her argument. *See* Dec. at 30 (citing *Knudsen*, 35 F.3d at 549). This binding precedent holds that “to require identification and proof of specific biological mechanisms [of causation] would be inconsistent with the purpose and nature of the vaccine compensation program.” *Knudsen*, 35 F.3d at 549.

Ms. Dodd has shown no error of law in the Chief Special Master’s analysis of *Althen* Prong Two in this case.

2. Ruling Regarding a Logical Sequence of Cause and Effect Linking the Alleged Injury to the MMR Vaccination

a. The Chief Special Master’s Finding of Fact

The court now turns to another link in the logical sequence of the cause and effect argument proffered by petitioner, *i.e.*, the proposition that the measles vaccine caused S.S.’s October 15, 2007 new onset seizures. The Chief Special Master conducted a painstaking review of the record and engaged in a thorough analysis of the parties’ arguments in this regard. Her decision on entitlement includes a detailed chronology of relevant events, including a discussion of S.S.’s childhood illnesses, his vaccinations on October 1, 2007, his symptoms a week later, his symptoms on October 15-16, 2007, and medical records pertinent to the onset of seizures and subsequent treatment. Dec. at 5-10 & nn.6-7, 10-11. The opinion of each expert as to a causal link between the vaccination and alleged injury is explained in detail, and the differences in expert opinions are presented in an objective, balanced, and well-organized analysis. *Id.* at 11-18. The Chief Special Master correctly cites the governing law regarding petitioner’s burden of proof on causation and applies this precedent to the facts in the record.

In her decision, the Chief Special Master correctly concludes that the logical sequence of cause and effect asserted by petitioner depends on two critical links: first, the measles vaccine caused the October 15, 2007 seizures; second, the October 15, 2007 seizures lowered S.S.’s seizure threshold which led to his epilepsy and developmental delays, as discussed *supra*. Dec. at 21-22, 31-32. In addition to medical records, expert reports and expert testimony, the Chief Special Master reviewed the medical literature most heavily relied upon by the parties. *Id.* at 22-27. These articles, for the most part, provide little support for the causation theory presented by Ms. Dodd, because, in the words of the Chief Special Master, “the literature petitioner filed does not pertain to the factual circumstances of S.S.’s case.” *Id.* at 28.

The court will not reproduce every finding relevant to this controversy, but provides here the most persuasive and determinative findings of the Chief Special Master in that regard. “S.S.’s treating physicians did not know the cause of S.S.’s

epilepsy.” Dec. at 31 (citing Ex. 14 at 17). Additionally, an alternative explanation for S.S.’s epilepsy was a “likely genetic predisposition to have a seizure condition” because of a family history of epilepsy.¹² *Id.* at 32. Much of the evidence of a causal link between the measles vaccine and seizures in the literature relied upon by petitioner was specific to seizures accompanied by fever, not afebrile seizures, as was the case here. *Id.* at 24, 27-28, 32. Furthermore, Dr. Kinsbourne’s theory of causation relied upon a connection between peak viremia and seizures, although the typical symptoms of peak viremia were not present at the time of S.S.’s new onset seizures. *Id.* at 22, 32.

Based on these findings, and others related to the literature relied upon by the parties, the Chief Special Master concluded that although “the measles vaccine can cause seizures in rare circumstances involving fever o[r] gastrointestinal illness . . . , petitioner has failed to prove, and the evidence of record is insufficient to show, that [such an] event occurred in this case.” Dec. at 31. The Chief Special Master summarized her analysis by stating that “[o]ther than the temporal relationship, there is nothing to suggest that the seizures S.S. suffered on October 15, 2007[] were caused by the measles vaccine.” *Id.* at 32. According to the Chief Special Master, a proximate temporal relationship and a “dubious claim that no other potential cause for S.S.’s injuries existed” are not sufficient to meet Ms. Dodd’s burden to show a logical causal sequence so as to satisfy *Althen* Prong Two. *Id.* at 32-33.

b. The Parties’ Arguments Regarding the Chief Special Master’s Finding of Fact

As a threshold issue, the court must identify the type of attack petitioner has mounted against the Chief Special Master’s finding of fact on causation. Although petitioner’s argument as a whole must properly be characterized as an assertion that the Chief Special Master’s finding of fact was arbitrary and capricious, *see* Pet.’s Mot. at 27 (asserting that the ruling on causation was “illogical”), Ms. Dodd also asserts that “[t]he Chief Special Master abused her discretion by ignoring relevant evidence,” *id.* Petitioner has failed, however, to identify a specific discretionary ruling of the Chief Special Master, evidentiary or otherwise, which

^{12/} Dr. MacDonald opined, both in his expert report and at the hearing, that it was more likely than not that S.S.’s epilepsy had a genetic basis, not a vaccine-related cause. *See* Ex. A at 4; Tr. at 101-04, 134.

this court could review for abuse of discretion. *See, e.g., Munn*, 970 F.2d at 870 n.10 (stating that “discretionary rulings [are reviewed] under the abuse of discretion standard . . . [and this standard] will rarely come into play”).

Having determined that the arbitrary and capricious standard, not the abuse of discretion standard, applies here, the court notes, at the outset, that any invitation to re-weigh the evidence is improper:

Clearly it is not then the role of this court to reweigh the factual evidence, or to assess whether the special master correctly evaluated the evidence. And of course we do not examine the probative value of the evidence or the credibility of the witnesses. These are all matters within the purview of the fact finder.

Id. at 871. Regrettably, petitioner’s challenge to the Chief Special Master’s fact finding is indeed a fruitless invitation to this court to re-weigh the evidence evaluated by the Chief Special Master. Ms. Dodd’s challenge to the Chief Special Master’s analysis of the link between the MMR vaccination and S.S.’s new onset seizures offers a catalog of the evidence that, in Ms. Dodd’s view, compels a ruling in petitioner’s favor.

First, Ms. Dodd emphasizes the “highly probative” nature of the proximate temporal relationship between S.S.’s MMR vaccination and his new onset seizures, and cites to testimony of Dr. Kinsbourne in this regard. Pet.’s Mot. at 24-25. Second, she references the medical literature relied upon by Dr. Kinsbourne as support for his testimony that the measles vaccine caused S.S.’s October 15, 2007 seizures. *Id.* at 25-26 (citing Tr. at 15-17, Exs. 18-A, 18-D at 1461, 18-I). Third, petitioner asserts that the record shows the “absence of an alternative cause” for S.S.’s seizures. *Id.* at 26-27. She concludes her invitation to re-weigh the evidence with a list of the evidence that the Chief Special Master is alleged to have ignored or evaluated illogically:

[S.S.’s] medical records, the strong temporal relationship between the vaccine and the symptoms, the absence of an alternative cause, the medical theory provided by Dr. Kinsbourne, the scientific literature upon which Dr. Kinsbourne relies, [and] the concessions made by Dr.

MacDonald all demonstrate that it is logical to conclude that the MMR vaccine caused S.S.'s epilepsy and developmental delays.

Id. at 27.

Respondent argues that the Chief Special Master's rulings on causation are not arbitrary or capricious:

In her Decision, the Chief Special Master properly and thoroughly considered the record evidence as a whole, and correctly found that petitioner failed to satisfy her burden of proving that the measles-mumps-rubella ("MMR") vaccine caused her son S.S. to suffer epilepsy, developmental delay and hyperactivity.

Resp.'s Resp. at 1-2. Respondent asserts, further, that the motion for review "amounts to nothing more than a disagreement with the Chief Special Master's well-supported factual findings." *Id.* at 2. The government's notes, in particular, that Dr. Kinsbourne did not establish that S.S.'s seizures were accompanied by fever, and did not address the issue of whether or not S.S. was experiencing gastrointestinal illness at the time of his new onset seizures; thus, Dr. Kinsbourne's theory of causation, which relied in part on studies of febrile seizures or seizures that accompanied gastrointestinal illness, was not persuasive. *Id.* at 9-10. Respondent also notes that no treating physician opined that S.S.'s epilepsy or developmental delays were caused by the measles vaccine. *Id.* at 11. Thus, in respondent's view, the evidentiary record fully supports the Chief Special Master's finding of fact on causation.

c. The Chief Special Master's Finding of Fact Survives Review

The court has considered the parties' arguments, the evidence of record and the thorough evaluation of that evidence that is set forth in the Chief Special Master's decision on entitlement. The court finds that the Chief Special Master "considered the relevant evidence of record, dr[ew] plausible inferences and articulated a rational basis for [her] decision." *Hines*, 940 F.2d at 1528. She neither ignored relevant evidence nor arrived at illogical conclusions. There is no

reversible error in her conclusion that

petitioner has failed to establish a logical sequence of cause and effect—consistent with her proposed theory—proving that the measles vaccine S.S. received on October 1, 2007 did cause his injuries. Thus, petitioner has failed to satisfy the second prong of the *Althen* test.

Dec. at 32. Under the deferential standard applicable here, the Chief Special Master’s ruling on causation is unassailable. Specifically, her analysis with respect to the second prong of the *Althen* test demonstrates that the Chief Special Master’s ruling was neither arbitrary or capricious.

First, the court must agree with respondent that the Chief Special Master undertook a “thorough evaluation of the medical literature submitted by the parties.” Resp.’s Resp. at 10. Her analysis of these articles was the foundation for her reasonable conclusion that while the theory advanced by Dr. Kinsbourne might support vaccine injury causation in other cases, that theory, and the medical literature underpinning that theory, did not fit the facts of the onset of S.S.’s epilepsy. Dec. at 31 & n.28 (citing *Hibbard*, 698 F.3d at 1362-63). In other words, the medical literature cited by petitioner did not provide the Chief Special Master with enough evidentiary support to carry petitioner’s burden on *Althen* Prong Two. *Id.* at 28. The court sees no flaw in this aspect of the Chief Special Master’s ruling.

Second, the Chief Special Master corrected a misreading of S.S.’s medical records that was presented in petitioner’s arguments regarding *Althen* Prong Two. Petitioner had consistently maintained that S.S.’s treating physicians had observed a causal connection between his vaccinations and his epilepsy. *See, e.g.*, Pet.’s Post-Hr’g Br. at 27 (“[S.S.] submits that his treating physicians also associated his MMR vaccine with his injuries, and provide supporting evidence of causation in his case.”). The record does not support this contention, and the Chief Special Master accurately noted that no such causal hypothesis by S.S.’s treating physicians can be found in his medical records. Dec. at 31. This finding, too, is sound.

Third, and perhaps most importantly, the Chief Special Master found Dr. Kinsbourne’s opinion regarding the causation of S.S.’s alleged vaccine injuries to

be less than persuasive. She found his causation arguments to lack coherence, to employ circular logic, and, in the end, to be unsound. Dec. at 21-22. His theory of causation failed to persuade, at least in part, because of a lack of consistency between the biological mechanisms he described and the actual onset of S.S.’s epilepsy. *Id.* at 31-32. The court defers to the Chief Special Master’s weighing of the opinion of Dr. Kinsbourne, *Munn*, 970 F.2d at 870, and finds no error in this or any other aspect of her ruling regarding *Althen* Prong Two.

C. Evidence of Alternative Causation

Finally, Ms. Dodd argues that the “Chief Special Master’s determination that S.S. had ‘a likely genetic predisposition to have a seizure condition’ because ‘S.S. had a maternal great aunt with epilepsy’ is arbitrary, capricious, and not in accordance with law.” Pet.’s Mot. at 29 (capitalization altered). This challenge to the ruling on entitlement can be divided into two sub-parts. First, indulging in the assumption that petitioner has proven her prima facie case of causation, Ms. Dodd argues that the evidentiary record is insufficient to meet respondent’s burden to prove alternative causation. *See id.* at 29 (“Having demonstrated that the petitioner satisfied the *Althen* prongs, the burden shifted to the respondent to show S.S.’s MMR vaccine is unrelated to his seizure disorder and developmental delays.”), 31 (“The respondent clearly failed to prove that an alternative cause of S.S.’s injury existed.”). Here, however, the Chief Special Master found that petitioner did not meet her burden to establish a prima facie case of causation, a finding that has been affirmed by this court, *see supra*; thus, the burden to prove alternative causation has not shifted to respondent. *E.g., Doe 11 v. Sec’y of Health & Human Servs.*, 601 F.3d 1349, 1358 (Fed. Cir. 2010) (citations omitted). Any speculation of petitioner as to whether on this record the government has proved alternative causation for S.S.’s epilepsy and developmental delays is irrelevant.

Second, petitioner argues that the Chief Special Master’s evaluation of the evidence of alternative causation is arbitrary and capricious. *See* Pet.’s Mot. at 30 (“[T]here is no explained, known, or documented evidence in the record indicating that S.S. has an underlying genetic disorder that caused his epilepsy.”) (emphasis removed); 32 (“A thorough review of the evidence in S.S.’s case clearly demonstrates the [ab]sence of any explained, known, or documented evidence in the record indicating an alternative cause to S.S.’s seizure disorder and subsequent developmental delays.”). The court must disagree. A family history of epilepsy was documented in S.S.’s medical records. *See supra* note 6. Dr. MacDonald

testified that it was his opinion that a genetic disorder was the most likely cause for S.S.'s seizure disorder and developmental delays. Tr. at 134; *see also* Ex. A at 4 (opining in his expert report that S.S.'s seizure disorder had a genetic basis). The Chief Special Master's consideration of this evidence has not been shown to be arbitrary or capricious. She "considered the relevant evidence of record [and] dr[ew] plausible inferences." *Hines*, 940 F.2d at 1528.

It is important to note that petitioner, attempting to establish a logical sequence of cause and effect in order to satisfy *Althen* Prong Two, relied to a great extent on a proximate temporal relationship between the MMR vaccination and S.S.'s new onset seizures, as well as an alleged absence of alternative causes. Pet.'s Post-Hr'g Br. at 26-29; Pet.'s Post-Hr'g Reply at 9-11. It was therefore within the Chief Special Master's purview to review evidence regarding alternative causation:

As this court explained in *Walther*, when petitioners attempt to eliminate other possible causes to buttress their theory of causation, the special master should evaluate such evidence in determining whether a prima facie case has been established.

Doe 11, 601 F.3d at 1358 (citing *Walther v. Sec'y of Health & Human Servs.*, 485 F.3d 1146, 1151 (Fed. Cir. 2007) and *Pafford*, 451 F.3d at 1359). Here, although there was limited evidence of alternative causation, the Chief Special Master rationally concluded that this evidence weakened petitioner's causation arguments.

Furthermore, there is no indication that the Chief Special Master impermissibly required petitioner to eliminate alternative causes. *See* Dec. at 32 ("[T]he Vaccine Act does not require [a] petitioner to bear the burden of eliminating alternative causes where the other evidence on causation is sufficient to establish a prima facie case[.]'" (quoting *Walther*, 485 F.3d at 1150)). Nor is there any sign that the Chief Special Master violated restrictions on the type of evidence that may be considered in the alternative causation inquiry. *See Doe 11*, 601 F.3d at 1358 (noting that a special master may make findings on any evidence which bears directly on the issue of causation (citing *de Bazan*, 539 F.3d at 1354)). The court sees no error of law in the Chief Special Master's consideration of evidence of alternative causation. Applying the deferential arbitrary and capricious standard of review to the fact finding of a special master, this court affirms the Chief Special Master's findings on alternative causation and rejects petitioner's final challenge to

the ruling denying entitlement.

CONCLUSION

For all of the above reasons, the court holds that the Chief Special Master's decision in this case was not arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.

Accordingly, it is hereby **ORDERED** that

- (1) Petitioner's Motion for Review, filed on July 5, 2013, is **DENIED**;
- (2) The decision of the Chief Special Master, filed on June 5, 2013, is **SUSTAINED**;
- (3) The Clerk's Office is directed to **ENTER** final judgment dismissing the petition; and,
- (4) The parties shall separately **FILE** any proposed redactions to this opinion, with the text to be redacted clearly marked out and enclosed in brackets, on or before **December 13, 2013**.

/s/ Lynn J. Bush
LYNN J. BUSH
Senior Judge