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On behalf of **Imperative Care, Inc.**

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IMPERATIVE CARE, INC.,
Petitioner,

v.

INARI MEDICAL INC.,
Patent Owner.

Case No. IPR2025-01021
Patent No. 11,969,333

**PETITIONER'S REPLY TO PATENT OWNER'S
PRELIMINARY RESPONSE**

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1001	U.S. Patent No. 11,969,333 (“the ’333 patent”)
1002	’333 Patent Prosecution History
1003	Expert Declaration of Troy Thornton
1004	Resume of Troy Thornton
1005	U.S. Patent No. 8,734,374 B2 to Aklog et al. (“Aklog”)
1006	U.S. Patent Publication No. 2015/0173782 A1 to Garrison et al. (“Garrison”)
1007	WIPO Publication No. WO 2006/124307 A2 to Goff et al. (“Goff”)
1008	U.S. Patent Publication No. 2003/0116731 A1 to Hartley (“Hartley”)
1009	U.S. Patent No. 6,776,770 B2 to Trerotola (“Trerotola”)
1010	U.S. Patent Publication No. 2010/0042118 A1 to Garrison et al.
1011	U.S. Patent No. 8,535,283 B2 to Heaton et al. (“Heaton”)
1012	U.S. Patent Publication No. 2017/0043066 A1 to Laub (“Laub”)
1013	U.S. Patent Publication US 2003/0225379 A1 to Schaffer et al. (“Schaffer”)
1014	U.S. Patent No. 5,938,645 to Gordon (“Gordon”)
1015	U.S. Patent Publication No. 2014/0296868 A1 to Garrison et al.
1016	U.S. Patent No. 7,998,104 B2 to Chang (“Chang”)
1017	U.S. Patent No. 8,157,760 B2 to Criado et al. (“Criado”)
1018	U.S. Patent No. 6,481,439 B1 to Lewis et al. (“Lewis”)

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1019	U.S. Patent No. 8,075,510 B2 to Aklog et al.
1020	WIPO Publication No. WO 2018/019829 A1 to Brady et al. (“Brady”)
1021	U.S. Patent Application No. 16/117,519 (the “519 application”)
1022	Expert Declaration of Dr. Aquilla S. Turk, III, DO
1023	Resume of Dr. Aquilla Turk, III, D.O.
1024	Shani, Jacob M.D., et al., Mechanical Manipulation of Thrombus: Coronary Thrombectomy, Intracoronary Clot Displacement, and Transcatheter Aspiration, 72 Am. J. Cardiol. 116G-118G (1993)
1025	Bose, A et al., The Penumbra System: A Mechanical Device for the Treatment of Acute Stroke due to Thromboembolism, 29 Am. J. Neuroradiol. 1409-1413 (Aug. 2008)
1026	Turk, Aquilla S. et al., Initial clinical experience with the ADAPT technique: A direct aspiration first pass technique for stroke thrombectomy, 6 J. NeuroIntervent. Surg. 231-237 (2014)
1027	Turk, Aquilla S. et al., ADAPT FAST study: a direct aspiration first pass technique for acute stroke thrombectomy, 6 J. NeuroIntervent. Surg. 260-264 (2014)
1028	April 24, 2024 Letter from Inari to Imperative Care
1029	Turk, Aquilla S. et al., Aspiration thrombectomy versus stent retriever thrombectomy as first-line approach for large vessel occlusion (COMPASS): a multicentre, randomized, open label, blinded outcome, non-inferiority trial, 393 Lancet 998-1008 (March 2019)
1030	Save, Jeffrey L., Time is Brain – Quantified, American Heart Association Journals, available at http://www.stokeaha.org (2005).

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1031	U.S. Patent No. 9,980,813 B1 to Eller (“Eller”)
1032	US 2018/0064453 A1 (“Garrison II”)
1033	US 2005/0054995 A1 (“Barzell”)
1034	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,697,011 (Paper 7) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2024-01157 (P.T.A.B. Jan. 23, 2025)
1035	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,697,012 (Paper 6) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00156 (P.T.A.B. Apr. 22, 2025)
1036	U.S. Patent No. 12,109,384 B2 to Merritt et al.
1037	Patent Owner’s Exhibit 2002 filed in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00289 (P.T.A.B.)
1038	Indigo Aspiration System-Penumbra Engine Pump and Canister, 510(k) No. K180105 (Mar. 8, 2018) (“Indigo Aspiration System”)
1039	AXS Universal Aspiration Set Brochure (2017)
1040	VacLok Negative Pressure Syringe Brochure
1041	O. Nikoubashman et al., Under Pressure: Comparison of Aspiration Techniques for Endovascular Mechanical Thrombectomy, 39 Am. J. Neuroradiol. 905-909 (May 2018) (“Nikoubashman”)
1042	Inari’s Supplemental Infringement Contentions (without claim charts) from <i>Inari Medical, Inc. v. Imperative Care, Inc.</i> , No. 24-cv-3117 (N.D. Cal.) (served February 7, 2025)
1043	Inari’s Notice of Motion and Motion for Leave to File Third Amended Complaint (Dkt. #88) in <i>Inari Medical, Inc. v. Imperative Care, Inc.</i> , 24-cv-03117-EKL (N.D. Cal.) (filed March 5, 2025)

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1045	Decision Denying Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,744,691 (Paper 10) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2024-01257 (P.T.A.B. Feb. 7, 2025)
1046	U.S. Patent No. 7,984,730 B2 to Ziv et al.
1047	Imperative Care's Opposition to Inari's Motion for Leave to File Third Amended Complaint (Dkt. #98) in <i>Inari Medical, Inc. v. Imperative Care, Inc.</i> , 24-cv-03117-EKL (N.D. Cal.) (filed March 26, 2025)
1048	Imperative Care's Notice of Motion and Motion to Stay Pending <i>Inter Partes</i> Review (Dkt. #100) in <i>Inari Medical, Inc. v. Imperative Care, Inc.</i> , 24-cv-03117-EKL (N.D. Cal.) (filed April 2, 2025)
1049	Ahmed Pasha et al., Successful Management of Acute Massive Pulmonary Embolism Using Angiovac Suction Catheter Technique in a Hemodynamically Unstable Patient, 15 Cardiovasc. Revasc. Med. 240-243 (2014)
1050	Certified File History of U.S. Patent Application 10/371,190 (Schaffer File History)
1051	Maureen Kohi, Catheter Directed Interventions for Acute Deep Vein Thrombosis, 6 Cardiovasc. Diagn. Ther. 599-611 (2016)
1052	Decision Denying Patent Owner's Request for Discretionary Denial (Paper 9) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00289 (P.T.A.B. June 12, 2025)

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1053	Decision Referring the Petition to the Board (Paper 9) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00728 (P.T.A.B. July 31, 2025)
1054	Decision Granting Institution of <i>Inter Partes</i> Review for U.S. Patent No. 11,554,005 (Paper 10) in <i>Imperative Care, Inc. v. Inari Medical, Inc.</i> , IPR2025-00289 (P.T.A.B. June 18, 2025)
1055	Order Denying Motion for Preliminary Injunction (Dkt. #136) in <i>Inari Medical, Inc. v. Imperative Care, Inc.</i> , 24-cv-03117-EKL (N.D. Cal.) (issued September 29, 2025)

In its POPR, Patent Owner (“PO”) raised new arguments for patentability that differed from the arguments made in prosecution and that led to the ’333 patent. (*See* Petition, 12 (prosecution summary).) Petitioner responds to those new arguments below and explains why PO’s new arguments fail to distinguish the prior art.

A. The District Court’s Preliminary Injunction Decision Confirms That Garrison And Laub Render The Challenged Claims Obvious

In co-pending litigation, the district court recently denied PO’s motion for a preliminary injunction because Petitioner raised a substantial question as to the validity of the ’910 patent, which shares a specification with the ’333 patent. The Court found “Garrison discloses nearly all of the limitations of the ’910 Patent, and Laub alone discloses the few remaining limitations.” (Ex. 1055, 21.) Like the ’333 patent, the ’910 patent recites a “pressure source [] configured to generate vacuum pressure while a first fluid control device is in the first [i.e., closed] position.” (*Id.*, 18.) Thus, the court found that Garrison and Laub disclose the limitations PO now contests. (*Id.*, 21.) The court’s decision strongly supports institution of this IPR.

In fact, PO did not even challenge that Garrison and Laub disclose the vacuum limitation it now raises. Instead, PO asserted its prosecution arguments that a POSITA would not have adapted Garrison’s aspiration system to treat pulmonary embolism. But the district court disagreed, holding that Petitioner “persuasively argues that a [POSITA] would be motivated to combine Garrison’s aspiration system

for treating cerebral blood clots with Laub’s teaching of an aspiration method for treating PE using larger-sized catheters, specifically 16F.” (*Id.*, 21.) Having failed to support its prosecution arguments, PO now manufactures new arguments in attempt to avoid institution. As explained below, PO’s new arguments fare no better because “Garrison discloses nearly all of the limitations of the [’333] Patent, and Laub alone discloses the few remaining limitations.” (*Id.*)

B. Garrison Builds Up Vacuum Pressure In A Clot Cannister When A Valve Is Closed

PO argues that Garrison does not disclose “building up pressure in a clot canister having a filter and then applying that vacuum pressure to aspirate using a valve.” (POPR, 39-42.) PO is incorrect for the reasons provided below.

1. Garrison’s Figures 33-34 Do Not Require A Peristaltic Pump

PO’s argument depends on limiting the aspiration source in Garrison’s Figures 33-34 to *only* a peristaltic pump. (POPR, 23-24, 41-45.) PO argues that the figures show a peristaltic pump and erroneously attempts to limit Garrison to the figures. *Neurent Med. Inc. v. Foundry, LLC*, IPR2024-00280, 2025 WL 2045352, *16 (P.T.A.B. July 21, 2025) (rejecting that prior art was limited to “ring electrodes” based on appearance of drawings). However, Garrison broadly discloses that the “active source of aspiration may be an aspiration pump, a regular or locking syringe, a hand-held aspirator, hospital suction, or the like.” (Ex. 1006, [0134].) Garrison also

discloses that Figure 33’s “aspiration source 3425 and delivery location may be combined into a single device such as a syringe.” (*Id.*, [0131].) Garrison does not limit the aspiration source to peristaltic pumps. (*Id.*, [0134].)

Consistently, Petitioner’s expert, Troy Thornton, testified that a POSITA “would have recognized that Garrison’s system could use other types of aspiration pumps that were known in the art as the aspiration source besides peristaltic pumps.” (Ex. 1003, ¶158.) Mr. Thornton identifies examples of other pumps that fall within the scope of Garrison’s disclosure. (*Id.*)

2. Garrison’s Rapid Aspiration Method Applies To Figure 34

Garrison describes releasing a built-up vacuum to “enable the maximum level of aspiration in a rapid fashion.” (Petition, 42 (citing Ex. 1006, [0134]).) PO attempts to minimize this disclosure by arguing that it describes a different arrangement than the Figure 33-34 embodiments. (POPR, 42.) But PO is wrong. Garrison describes using rapid aspiration with the systems in Figures 33-34. (Ex. 1006, [0132]-[0134].)

The description of the rapid aspiration method immediately follows the description of Figures 33-34 and builds upon that description. (*Id.*) The system in Figure 34 includes a “valve 3325” or “flow controller” that controls whether the pressure source is connected to the aspiration catheter. (*Id.*, [0132]-[0133].) Immediately thereafter, Garrison discloses the rapid aspiration method. (*Id.*, [0134].) Garrison states that the “source of aspiration may be an aspiration pump, a regular

or locking syringe, a hand-held aspirator, hospital suction, or the like,” consistent with Figures 33-34. (*Id.*, [0134]; *see also id.*, [0131].) Garrison then states, “a locking syringe ... is attached to *the* flow controller and the plunger is pulled back into a locked position by the user while *the* connection to the flow line is closed” (*Id.*, [0134] (emphasis added).) This paragraph refers to the previously introduced flow controller and connection described for Figures 33-34.

PO also argues that the rapid aspiration embodiment has a “completely different arrangement than that in Figure 34” because “the syringe is attached directly to a flow controller, such that vacuum cannot be generated in any clot canister.” (POPR, 42.) However, Garrison never states that the syringe is attached “*directly* to a flow controller,” nor does Garrison preclude an intermediary clot cannister as shown in Figure 34. (Ex. 1006, [0134].) PO’s argument is unsupported.

3. Garrison’s Rapid Aspiration Method Is Not Limited To A Syringe

PO also argues that Garrison’s rapid aspiration method would work only with a syringe because a pump would not generate “the maximum level of aspiration in a rapid fashion.” (POPR, 43-46.) Again, Garrison contradicts PO. Garrison discloses that the aspiration source can be a pump or syringe. (Ex. 1006, [0134].) The evidence reflects that Garrison’s rapid aspiration method would have worked with either source. (Ex. 1003, ¶105.) Mr. Thornton explained, “Because the valve ... is distal to the filter, the vacuum pressure builds up within the filter canister via the pressure

source when the valve is [] closed.” (*Id.*) That is true regardless of whether the pressure source is a pump or syringe. Further, Garrison states that opening the valve after building up the pressure releases “the maximum level of aspiration in a rapid fashion” further contradicting PO. (Ex. 1006, [0134].)

The ’333 patent also confirms that pumps and syringes can build up pressure in an aspiration system. Like Garrison, the ’333 patent discloses that “the pressure source can be a pump [or] one or more syringes.” (Ex. 1001, 7:36-41; *see also id.*, claims 15, 34 (claiming a pump).) Yet, the ’333 patent does not differentiate between a pump and syringe when describing how to build up and release pressure. Instead, the ’333 patent treats the pressure sources as interchangeable.

The evidence also shows that physicians used syringes and pumps to create rapid aspiration before 2017. Dr. Turk, an interventional neuroradiologist, explained, “[o]ne of the techniques my fellow surgeons and I have done since the early 2010s is to place a tube clamp on the tubing running from the aspiration catheter to the syringe or pump [and then] pull back the syringe or turn on the pump to create negative pressure in the tubing before removing the tube clamp [to] increase[] the suction immediately applied to the clot.” (Ex. 1022, ¶23.) Thus, a POSITA would have expected Garrison’s rapid aspiration method to work with syringes and pumps.

C. Garrison’s Rapid Aspiration Method Is Compatible With Blood Return

PO also argues that Garrison’s rapid aspiration method would be incompatible

with blood return. PO's argument fails for several reasons. First, Garrison discloses that the valve is closed prior to aspiration. (Ex. 1006, [0134].) Once Garrison's valve is opened, the system runs continuously, allowing for blood return, which Garrison itself discloses. (*Id.*, [0136].) Second, even if a physician reclosed the valve to build up more pressure, the closure would be temporary. (*See id.*, [0134].) PO fails to show that this short interruption of aspiration would lead to thrombus or clot formation in the tubing that would prevent blood return. Third, "continuous" blood return would not be necessary during the short periods when Garrison's valve is closed because no blood is being withdrawn from the patient.

D. POSITAs Would Have Been Motivated To Use A Stopcock

PO incorrectly argues that a stopcock, like Garrison's valve, would "introduce dangerous flow paths for air to be reinfused into the patient in Laub and Aklog." (POPR, 52-55.) PO's argument is premised on incorporating a 3- or 4-way stopcock valve into Laub or Aklog's systems. (*Id.*) But Petitioner's unpatentability ground is not premised on specifically adding a 3- or 4-way stopcock valve to Laub or Aklog. (*See* Ex. 1003, ¶108 ("A [POSITA] would have recognized that a stopcock could be incorporated into Laub's system at the connector to help control the fluid flow.").) Garrison describes the 3- or 4-way stopcocks as exemplary. (Ex. 1006, [0132] ("The valve may be a 3-way or 4-way stopcock.")) A POSITA would have recognized that a 3- or 4-way stopcock was unnecessary in Laub's or Aklog's system, which has

only two tubing sections connected to the valve. Here, a standard 2-way stopcock would be sufficient. *See KSR Int'l Co. v. Teleflex*, 550 U.S. 398, 421 (2007) (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

Further, a POSITA would have understood how to prevent the ingress of air even on a 3-way stopcock, such as capping one of the inlets or clearly marking the stopcock to avoid mistakes. (*See e.g.*, Ex. 1003, ¶139 (showing stopcock (Ex. 1046) having a cap and “OFF” marking).) Mr. Thornton explains, “a stopcock valve is a simple mechanical structure that a [POSITA] would have used regularly as part of their job in 2018.” (*Id.*, ¶107.) PO’s argument that a POSITA would have used only a 3- or 4-way stopcock and done so in a dangerous manner is unreasonable.

PO also incorrectly argues that a stopcock would “needlessly complicate Laub’s and Aklog’s systems.” (POPR, 55-56.) Not so. As explained by Mr. Thornton, the stopcock would provide additional control for the physician, so it would not be “needless.” (Ex. 1003, ¶¶106, 109.) PO fails to show that the minimal effort needed to operate a simple stopcock would outweigh this added control. (*See e.g., id.*, ¶139 (“Stopcocks having a lever to rotate the stopcock were common in August 2018.”); Ex. 1022, ¶23.) Further, the stopcock would simplify aspiration control because the stopcock is close to the operating physician, while the aspiration source is far from the physician. (Petition, 38-41 (showing position of valve).)

IPR2025-01021

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CERTIFICATE OF SERVICE

I hereby certify that, pursuant to 37 C.F.R. § 42.6(e), a true and correct copy of **PETITIONER’S REPLY TO PATENT OWNER’S PRELIMINARY RESPONSE** is being served electronically on October 21, 2025, to the e-mail addresses shown below:

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