United States District Court,
C.D. California.

TEHRANI,
v.
INTERNATIONAL CYCLE WORKS, INC.; and USA.

No. SA CV 06-20 DOC (RNBx)

June 19, 2007.

Scott Russell Maynard, William C. Rooklidge, Howrey LLP, Irvine, CA, for Fleur Tehrani.

PROCEEDING (IN CHAMBERS): ORDER CONSOLIDATING RELATED CASES

The Honorable DAVID O. CARTER**, District Judge.**

DOCKET ENTRY

[I hereby certify that this document was served by first class mail or Government messenger service, postage prepaid, to all counsel (or parties) at their respective most recent address of record in this action on this date.]

Kristee Hopkins, Courtroom Clerk.

Before the Court is Defendants Polar Electro Oy, Polar Electro, Inc., and Physi-Cal Enterprises, Inc.'s Joint *Ex Parte* Application for Order Continuing Trial and Trial Related Dates and to Consolidate Actions ("Application"), filed June 12, 2007. After considering the moving and opposing papers, as well as a declaration from counsel for the only remaining defendant in the related case in support of the Application, the Court hereby GRANTS the Application.

Federal Rule of Civil Procedure 42(a) provides:

When actions involving a common question of law or fact are pending before the court, it may order a joint hearing or trial of any or all the matters in issue in the actions; it may order all the actions consolidated; and it may make such orders concerning proceedings therein as may tend to avoid unnecessary costs or delay.

Fed.R.Civ.P. 42(a). The purpose of consolidation is to enhance court efficiency and to avoid substantial danger of inconsistent adjudications. E.E.O.C. v. HBE Corp., 135 F.3d 543, 551 (8th Cir.1998). "To determine whether to consolidate, a court weighs the interest of judicial convenience against the potential for delay, confusion and prejudice caused by consolidation." *Sw.* Marine, Inc. v. Triple A Mach. Shop, Inc., 720 F.Supp. 805, 807 (N.D.Cal.1989). Ultimately, the decision whether to consolidate rests in the Court's sound discretion. Investors Research Co. v. United States Dist. Ct., 877 F.2d 777, 777 (9th Cir.1989).

On November 14, 2005, Plaintiff Dr. Fleur Tehrani ("Dr.Tehrani") filed *Tehrani v. Polar Electro Oy, et al.,* case no. SA CV 05-1113 DOC (FFMx), (hereinafter the "*Polar* matter"). On January 9, 2006, Dr. Tehrani filed the related case, *Tehrani v. International Cycle Works, Inc., et al.,* SA CV 06-20 DOC (RNBx), (hereinafter the "*Cat Eye* matter"). FN1 Both matters involve: (1) the same plaintiff, Dr. Tehrani; (2) the same attorneys representing plaintiff; (3) the same patent, U.S. Patent Number 4,909,259 ("the '259 patent"); (4) the same defenses, e.g. invalidity; and (5) the same general issues of infringement although there are some functionality differences between each defendant's allegedly infringing product. The First Amended Complaints ("FAC") in the two cases are substantially similar; in fact, many paragraphs from the *Polar* FAC appear verbatim in the *Cat Eye* FAC. While the First Amended Complaints in both cases assert claims against numerous defendants, Dr. Tehrani has settled with, or otherwise dismissed, six defendants in the *Cat Eye* matter and one defendant in the *Polar* matter. Consequently, only two defendants presently remain in the *Polar* matter, Defendants Polar Electro Oy and Polar Electro, Inc. (collectively "Polar") and Physi-Cal Enterprises, Inc. ("Physi-Cal") and only one defendant presently remains in the *Cat Eye* matter, Defendant Cat Eye Co., Ltd. ("Cat Eye") (hereinafter, collectively with Polar and Physi-Cal, the "remaining Defendants").

FN1. Dr. Tehrani filed a First Amended Complaint in the *Cat Eye* matter on April 7, 2006, which, *inter alia,* added Defendant Cat Eye Co., Ltd. as a defendant in that case.

The remaining Defendants request that the Court consolidate these related cases. Specifically, Polar and Physi-Cal ask to Court to consolidate the trial and pretrial conference in the *Polar* matter with the currently scheduled trial and pretrial conference in the *Cat Eye* matter. Notice 2:7-9. Cat Eye joins in this request and informs the Court that Cat Eye intends to file a similar motion to consolidate. Decl. of Joseph M. Kuo para.para. 3-4. Dr. Tehrani does not oppose the consolidation nor does she oppose continuing the trial and pretrial conference dates in the *Polar* matter. However, Dr. Tehrani opposes continuing the pretrial and trial dates in the *Polar* matter to the dates currently set in the *Cat Eye* matter.

The Court agrees with the parties that the *Polar* and *Cat Eye* matters, involving the same plaintiff, the same patent, the same asserted claims, and defenses and counterclaims with significant overlap, should be consolidated. For example, important common questions of law and fact in both matters involve the construction of the '259 patent. As evidenced by the recent continuance of the hearings on the summary judgment and Markman motions in both cases to July 24, 2007, the Court, like the parties, recognizes the benefits, in terms of judicial economy and convenience, of addressing the issues in the *Polar* and *Cat Eye* matters simultaneously. For the reasons set forth above, the Court finds that good cause exists to consolidate these related cases.

Moreover, Dr. Tehrani's objections to Polar and Physi-Cal's proposal to continue the *Polar* trial date to October 9, 2007 (the *Cat Eye* trial date) are without merit. Dr. Tehrani and Defendant Cat Eye, along with the previously dismissed defendants in the *Cat Eye* matter, specifically selected October 9, 2007 for the trial in that case. On July 24, 2006, when the Scheduling Order in the *Cat Eye* matter was filed, there were six defendants. Accordingly, Dr. Tehrani cannot now plausibly complain about having a trial with the three remaining defendants in both cases on October 9, 2007 on the ground that she had "planned all along for trial in October to be for one party, Cat Eye." Opp'n 3:17-18. In fact, even with Polar and Physi-Cal, the October 9, 2007 trial will have half as many defendants as anticipated when Dr. Tehrani and Cat Eye selected the October 9 date. In addition, due to a complex criminal death penalty case over which the Court

is presiding, the Court is unavailable to conduct the trial in either matter prior to August 20, 2007 as Dr. Tehrani requests.

Accordingly, the Court hereby GRANTS the Application. The *Polar* matter, SA CV 05-1113 DOC (FFMx), is hereby consolidated with the *Cat Eye* matter, SA CV 06-20 DOC (RNBx). **All documents shall now be filed under case number SA CV 05-1113 DOC (FFMx), designated as the LEAD case.**

The trial in the *Polar* matter is CONTINUED to October 9, 2007 at 8:30 a.m. The Final Pretrial Conference in the *Polar* matter is likewise CONTINUED to September 24, 2007 at 8:30 a.m.

The Clerk shall serve this minute order on all parties to the action.

FLEUR T. TEHRANI, Ph.D.,

Plaintiff,

v.

POLAR ELECTRO, INC., et at.,

Defendants.

FLEUR T. TEHRANI, Ph.D.,

Plaintiff,

v.

CAT EYE CO., LTD., et al.,

Defendants.

***ORDER* RE CLAIM CONSTRUCTION AND CROSS MOTIONS FOR SUMMARY JUDGMENT**

Before the Court are the following motions: (1) Plaintiff Fleur T. Tehrani, Ph.D's ("Dr. Tehrani" or "Plaintiff") Motion for Claim Construction; (2) Defendant Cat Eye Co., Ltd.'s ("Cat Eye") Motion for Claim Construction; (3) Defendant Physi-Cal Enterprises, Inc.'s ("Physi-Cal") Motion for Summary Judgment of Non-Infringement; (4) Defendants Polar Electro, Inc. and Polar Electro, Oy's (collectively "Polar") Motion for Summary Judgment; (5) Plaintiff's Motion for Summary Judgment of Infringement as to Defendants Polar and Physi-Cal; and (6) Cat Eye's Motion for Summary Judgment. After considering the moving, opposing, and replying papers, as well as oral arguments, and construing the relevant claims, the Court hereby GRANTS Physi-Cal's Motion for Summary Judgment of Non-Infringement; GRANTS IN PART Polar's Motion for Summary Judgment; GRANTS IN PART Cat Eye's Motion for Summary Judgment; and DENIES Plaintiff's Motion for Summary Judgment of Infringement. Because these rulings dispose of the case, the Court does not address the remaining arguments about invalidity raised in Polar's and Cat Eye's Motions for Summary Judgment. FN1

FN1. Because the Court finds, as a matter of law, that the accused devices do not infringe the '259 Patent, any ruling on validity would be merely advisory. The Court accordingly stays Defendants' invalidity counterclaims and certifies its finding of non-infringement so that the case is in a proper posture for appeal. *See* Storage Tech. Corp. v. Cisco Sys., Inc., 329 F.3d 823, 829-30 (Fed.Cir.2003).

I. BACKGROUND

Plaintiff Dr. Tehrani is a tenured professor at California State University, Fullerton. She holds a Ph.D. in electrical engineering with an emphasis on systems and control engineering and their applications in biological systems. Dr. Tehrani's main research area is biomedical engineering and she has a particular interest in the application of engineering methods in healthcare and medicine.

Defendant Polar Electro, Oy is a Finnish company that manufactures and sells heart rate monitor watches and bicycle computers. Defendant Polar Electro, Inc. is Polar Electro, Oy's North American subsidiary, which imports and sells Polar products in the United States. Defendant Physi-Cal is a Canadian company, which sells heart rate monitor watches in the United States under the Mio brand name. Defendant Cat Eye is a Japanese company that imports and sells heart rate monitors and bicycle computers in the United States.

In 1988, Dr. Tehrani developed a method and apparatus for determining a patient's metabolic rate ratio ("MRR"), which purportedly improved upon the existing cumbersome or inaccurate metabolic rate monitors. She filed a patent application for this invention in April of 1989 and obtained a patent, United States Patent Number 4,909,259 ("the '259 Patent" or "the Patent"), on March 20, 1990. The '259 Patent is directed to an apparatus and method for determining a patient's MRR from the patient's oxygen and carbon dioxide concentrations and cardiac function. '259 Patent, Abstract, Ex. A to Decl. of Scott Maynard in Supp. of Dr. Tehrani's Opening Claim Construction Br. (hereinafter "Pl.'s Ex. A, Patent"). Cardiac function is defined as "either heart rate and stroke volume of the patient, or cardiac output data." *Id*. at Abstract. Cardiac output is the volume of blood ejected by the heart in a given period of time and stroke volume is the volume of blood ejected by the heart in a single beat, which yields cardiac output when multiplied by the heart rate. The '259 Patent expressly defines metabolic rate ratio ("MRR") as "the ratio of metabolic rate to basal rate of metabolism." '259 Patent, Col. 1, lns. 57-58. "Metabolism" is the energy used in an activity and "metabolic rate" is the rate at which a person expends energy. "Basal rate of metabolism" is the rate at which a person expends energy at complete rest after fasting, i.e. a period of 12 hours rest and without food or caffeine; "basal metabolism" is the energy used by a body for its most essential activities such as breathing, maintaining membrane potentials and resting levels of neural, cardiac, liver and kidney function.

MRR was not a novel concept to the '259 Patent-it had been know for decades, more commonly as Metabolic Equivalents ("METS"). Moreover, as the ' 259 Patent acknowledges, prior art had previously recognized the relationship between metabolic rate and oxygen uptake and devices already existed to measure oxygen uptake as indicative of metabolic rate. However, citing a number of pitfalls with using oxygen uptake as an indicator of metabolic rate, the '259 Patent set out to create a new method and apparatus for measuring MRR based upon a discovery of the relationship between MRR and a patient's cardiac output and certain blood gas levels. According to the '259 Patent, the invention was based on Dr. Tehrani's finding that "a patient's metabolic rate ratio (MRR) can be reliably determined under both steady state and transient conditions without measuring oxygen uptake by employing data indicative of the patient's carbon dioxide and oxygen pressures of arterial blood and the patient's cardiac output." Id. at Col. 1, lns. 51-57. In particular, the findings that "cardiac output increases rapidly and enormously as the MRR increases,

and cardiac output increases as arterial CO2 [carbon dioxide] pressure increases and as arterial O_2 [oxygen] pressure decreases." *Id*. at Col. 2, lns. 9-13.

The '259 Patent describes in detail the particular apparatus for obtaining individuals' MRR and provides two distinct embodiments for the apparatus. One of these embodiments is taught for a "patient." Id. passim. The other, referenced twice as a simplified version of the "patient" embodiment, is for "a normal healthy subject" or "normal, healthy individuals." Id. at Col. 5, lns. 3-8; Col. 9 lns. 7-13. Despite the disclosure of different apparatuses for different classes of individuals, the claims at issue are specific to the "patient" apparatus. None of the claims are directed to the embodiment for "normal, healthy individuals," "normal healthy subjects" or any other generic term that could encompass both patients and normal, healthy individuals, such as "individual," "subject," or "person."

On November 14, 2005, Dr. Tehrani filed suit against Defendants Polar and Physi-Cal ("the Polar matter"), alleging that several of their products infringe the '259 Patent. On January 9, 2006, Dr. Tehrani filed a second case against multiple defendants, including Cat Eye ("the Cat Eye matter"), likewise alleging that several of their products infringe the '259 Patent. Given the significant overlap between these related cases, upon Polar and Physi-Cal's motion, the Court consolidated the Polar and Cat Eye matters on June 19, 2007.

Discovery is complete in both cases. The parties now move the Court for an order construing the asserted claims of the '259 Patent. The parties also move for summary judgment; Polar and Cat Eye as to invalidity and non-infringement; Physi-Cal as to non-infringement; and Dr. Tehrani as to infringement against Polar and Physi-Cal.

II. CLAIM CONSTRUCTION

Patent infringement analysis involves two steps: (1) an interpretation of the asserted claims, and (2) a comparison of the claims to the accused device. Markman v. Westview Instruments, Inc.., 52 F.3d 967, 976 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). Claim interpretation is a matter of law, Markman, 52 F.3d at 979, and is thus amenable to summary judgment, even though the analysis involves both issues of law and questions of fact. Phonometrics Inc. v. N. Telecom Inc., 133 F.3d 1459, 1463-64 (Fed.Cir.1998). Many courts, however, have chosen to hold a claim interpretation hearing, or *Markman* hearing, to facilitate the claim interpretation process. *See e.g.,* Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 93 F.3d 1572, 1577 (Fed.Cir.1996).

Claim interpretation begins with the language of the claim. Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1324 (Fed.Cir.2002). Terms in the claim are generally given the ordinary and customary meaning they would have to a person of ordinary skill in the art at the time of the invention. Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed.Cir.2005) (en banc). However, the terms must be read in the context of the entire patent. Id. at 1314. In interpreting the claims, the court focuses primarily on the intrinsic evidence of record, including the claims themselves, the specification, and if in evidence, the prosecution history. Id. at 1312-17.

Among the intrinsic evidence, the specification is always highly relevant to the claim construction analysis-it is the single best guide to the meaning of a disputed term, and is usually dispositive. Id. at 1315 (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996)). "The specification is, thus, the primary basis for construing the claims." *Id*. (quoting Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 452 (Fed.Cir.1985)). In addition to the specification, the court will also consider the prosecution history,

consisting of "the complete record" of the patent. Id. at 1317. However, because the prosecution history often lacks the clarity of the specification, it is less useful for claim interpretation purposes. *Id*.

While the court may also consider extrinsic evidence, including expert testimony, dictionaries, and learned treatises, as the Federal Circuit has recently made clear, such evidence is generally viewed as less reliable than intrinsic evidence. Phillips, 415 F.3d at 1317-18. Therefore, the court must use its discretion in admitting and weighing extrinsic evidence, keeping in mind its inherent flaws. Id. at 1319.

As to Defendants Polar and Physi-Cal, Dr. Tehrani is asserting Claims 1, 6, and 8 of the '259 Patent. As to Defendant Cat Eye, Dr. Tehrani is asserting Claims 1, 6, 7, and 8 of the '259 Patent. Claims 6 through 8 are dependent claims and thus, the only independent claim asserted in this action is Claim 1, which reads:

Apparatus comprising:

(a) first means for providing data indicative of a cardiac function of a patient; and

(b) second means for determining the patient's metabolic rate ratio based upon the data provided by the first means.

'259 Patent 11:4-9. Claim 6 reads "Apparatus according to claim 1 wherein the first means comprises a heart monitor." '259 Patent 11:38-39. Claim 7 reads "Apparatus according to claim 6 wherein the heart rate monitor comprises a pulse monitor for providing a systolic pulse signal." '259 Patent 11:40-42. Claim 8 reads "Apparatus according to claim 6 wherein the heart rate monitor comprises means for processing an ECG signal." '259 Patent 11:43-45.

The parties dispute the proper construction of both the "first means" and the "second means" of Claim 1, as well as the meaning of the terms "cardiac function" and "patient." As to the term "patient," the Court agrees with Polar and Physi-Cal that it need not be explicitly defined, except to note that because of the term's juxtaposition with the contrasting "normal, healthy individual," regardless of its exact definition, the term "patient" in the ' 259 Patent indicates something other than a "normal, healthy individual." FN2

FN2. Even were the Court to accept Dr. Tehrani's invitation to define the term "patient," the Court would not adopt her proposed "rare" linguistic definition: "a person or thing that undergoes some action." Ex. A to Decl. of Scott Maynard in Opp'n to Defs.' Opening Markman Br. at 6 (Webster's Encyclopedic Unabridged Dictionary entry labeling this secondary definition as "rare"); Ex. 7 to Decl. of Joseph M. Kuo in Opp'n to Pl.'s Mot. for Claim Construction ("Kuo Opp'n Claim Decl.") (in linguistics, "patient" is the noun in a sentence that is acted upon by the verb; e.g. in the sentence "she threw the ball," "ball" is the patient). Instead, the Court would adopt the common and primary definition of "patient": "a person who is under medical or surgical treatment" for several reasons. Id. First, the medical treatment definition is logical, whereas the linguistic definition is irrelevant, in the context of the '259 Patent, pertaining to medical or health related applications. Second, this medical treatment definition makes sense in the context of the '259 Patent's explicit contrast between the "patient" embodiment and the "normal, healthy individual" embodiment. Finally, the specification shows that patient and subject are not used as synonyms in the '259 Patent because "subject" refers to either a "patient" or a "normal, healthy individual," whereas "patient" refers to something other than a "normal, healthy individual." ' 259 Patent 5:30-39; 9:7-13.

A. Claim 1: "First Means for providing data indicative of a cardiac function of a patient"

The parties agree that the "first means" is a means-plus-function claim subject to 35 U.S.C. s. 112, para. 6.FN3 This requires "both identification of the claimed function and identification of the structure in the written description necessary to perform that function." Micro Chem., Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1258 (Fed.Cir.1999).

FN3. An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. s. 112, para. 6.
In a literal infringement analysis, the court must first interpret the asserted claims to determine their meaning and scope, and then determine whether the claims read on the accused product. Southwall Tech., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1575 (Fed.Cir.1995). "To establish literal infringement, every limitation set forth in a claim must be found in an accused product, exactly." *Id*. Additionally, an examination of a means-plus-function claim is guided by section 112 of the Patent Act. Because a literal reading of means-plus-function language "could encompass any conceivable means for performing the function," the court must construe the patent in light of the patent specification. Valmont Indus., Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1042 (Fed.Cir.1993). This limits patent protection to the invention specified in the patent and its equivalent. *Id*. Thus, "for a means-plus-function limitation to read on an accused device, the accused device must employ means identical to or the equivalent of the structures, material, or acts described in the patent specification. The accused device must also perform the identical function as specified in the claims." *Id*.

Cat Eye contends that the function of the "first means" is evident from the language of Claim 1, namely the first means must "provide data indicative of a cardiac function *of a patient*." '259 Patent 11:5-6 (emphasis added); *accord* Creo Prods. v. Presstek, Inc., 305 F.3d 1337, 1344 (Fed.Cir.2002) ("function of a means-plus-function limitation ... must come from the claim language itself). The Court agrees and looks to the specification for guidance as to the definition of the "cardiac function of a patient." *See* Network Commerce, Inc. v. Microsoft Corp., 422 F.3d 1353, 1360 (Fed.Cir.2005) ("the specification necessarily informs the proper construction of the claims and it is appropriate for a court ... to rely heavily on the written description for guidance as to the meaning of claims") (internal quotations omitted).

The '259 Patent discloses two apparatus embodiments, one of which is specific to a patient. This patient embodiment is the main focus of the specification and includes CO2 and O_2 blood gas sensors, as well as either a cardiac output monitor or stroke volume and heart rate monitors. ' 259 Patent *passim; see also* Polar, Physi-Cal Defs.' Opening Markman Br. at 7:22-10:11 (listing examples of the numerous locations in the '259 Patent where the term "patient" is used to describe the apparatus and method). The other embodiment is for "normal, healthy individuals." Unlike the patient embodiment, the apparatus for a "normal, healthy individual" does not use blood gas sensors. The normal healthy individual embodiment is discussed only twice in the specification, both times as a potential simplified version of the patient embodiment. *See* Pl.'s Ex. A, Patent Col. 5, lns. 3-8, Col. 9, lns. 7-13. Given this disclosure, if Claim 1 claimed an apparatus comprising first means for providing data indicative of the cardiac function of a subject, an individual, a person, or some other generic term, Claim 1 would cover both embodiments disclosed in the specification. The problem is that Dr. Tehrani did not employ such generic terms, instead she chose to limit each of the

claims at issue to the cardiac function of a "patient." Therefore, because Dr. Tehrani did not claim the disclosed simplified "normal, healthy individual" embodiment, it is dedicated to the public. Maxwell v. J. Baker, Inc., 86 F.3d 1098, 1106 (Fed.Cir.1996) (reiterating well-established rule that "subject matter disclosed but not claimed in a patent application is dedicated to the public"). As the patentee, Dr. Tehrani was free to chose the words of her claims, her failure to claim the "normal, healthy individual" embodiment is her responsibility. *See* Sage Prods. v. Devon Indus., 126 F.3d 1420, 1425 (Fed.Cir.1997) ("as between the patentee who had a clear opportunity to negotiate broader claims but did not do so, and the public at large, it is the patentee who must bear the cost of its failure to seek protection for this foreseeable alteration of its claimed structure"). She cannot retroactively contort the intrinsic evidence to attempt to cover an embodiment she failed to claim in her '259 Patent. Moreover, Dr. Tehrani explicitly describes her "invention" as the patient embodiment: "The present invention relates to a method and apparatus for determining a patient's MRR using data indicative of CO2 (carbon dioxide) and O_2 (oxygen) pressures of the patient's arterial blood and of the patient's cardiac output." '259 Patent 2:5-9. Accordingly, the Court looks to the patient apparatus disclosed in the '259 Patent to determine the structure for the claimed elements.

The disclosed structure for the first means requires a device for supplying data indicative of a cardiac function. Thus, the next step in construing "first means" is determining the meaning of the term "cardiac function." Because Dr. Tehrani "is not entitled to a claim construction divorced from the context of the written description," Nystrom v. Trex Co., 424 F.3d 1136, 1145 (Fed.Cir.2005), the Court declines Dr. Tehrani's invitation to begin the investigation with general purpose dictionary definitions for "cardiac" and "function." *See* Pl.'s Opening Claim Construction Br. 8:8-9:2 (combining definitions of cardiac and function to define cardiac function). Dr. Tehrani's resort to the separate dictionary definition of each word, shows that at the time the '259 Patent was filed, the claim term "cardiac function" had no commonly understood meaning. Similarly, notable extrinsic sources show no accepted definition in the relevant art-neither *Dorland's Medical Dictionary,* nor the book entitled, *Physiology and Biophysics,* which Dr. Tehrani relied upon in preparing her doctoral thesis, define "cardiac function." Exs. 2, 3 to Kuo Opp'n Claim Decl. Moreover, simply combining the definitions of "cardiac" and "function" results in a broad, vague definition that is untenable in light of the specification.FN4 Network Commerce, Inc., 422 F.3d at 1360 (rejecting similar invitation to define "download component" by combining individual definitions of "download" and "component").

FN4. Dr. Tehrani's proposed definition of "function" is any action of an organ, such that cardiac function data would be "data indicative of the physiological activity of the heart." This definition would encompass creating and maintaining blood pressure; however, blood pressure, like heart rate alone, is not taught to be "cardiac function" data in the ' 259 Patent.

The Court, therefore, looks to the '259 Patent, which itself explicitly defines the term "cardiac function." FN5 "[C]ardiac function data may be either heart rate and stroke volume of the patient, or cardiac output data." Pl.'s Ex. A, ' 259 Patent, Abstract; W.E. Hall Co. v. Atlanta Corrugating, LLC, 370 F.3d 1343, 1350 (Fed.Cir.2004) ("While dictionaries may be used to ascertain the plain and ordinary meaning of claim terms, the intrinsic record is used to resolve ambiguity in claim language or, where it is clear, trump inconsistent dictionary definitions."). Dr. Tehrani argues that the use of the word "may" in the Abstract's definition indicates that what follows are simply two acceptable types of cardiac function, but that cardiac function is not clearly limited to these two types. Dr. Tehrani's reliance on the word "may," however, is misplaced because the "may" is followed by an "either or" clause. Thus, the may merely indicates that cardiac function

can be either of the following two things: "heart rate and stroke volume" or "cardiac output data." ' 259 Patent Abstract. The Summary of Invention section further supports the Abstract definition that cardiac function is either heart rate and stroke volume or cardiac output data:

FN5. There is no justification for turning to the dictionary here, since the '259 Patent explicitly defines the disputed term, whereas in *Network Commerce* the specification did not use the disputed term; nevertheless, even in that situation, the Federal Circuit looked to the specification for the term that "corresponds most closely to the [claimed term]" instead of combining dictionary definitions. Network Commerce, Inc., 422 F.3d at 1360.

Cardiac output data may be obtained in at least one of two methods. [para.] In a first method, data indicative of the patient's heart rate and stroke volume is provided and the patient's cardiac output is computed therefrom ... [para.] In a second method, data indicative of the patient's cardiac output is directly provided by a cardiac output monitor.
'259 Patent 2:19-38. This explicit teaching in the '259 Patent similarly defeats Dr. Tehrani's unsupported assertion that the Abstract merely lists examples of cardiac function. Moreover, the '259 Patent does not merely discuss cardiac output as part of the preferred embodiment, rather the Patent teaches that such data is an integral part of the invention. In fact, the invention itself is based upon Dr. Tehrani's finding about the relationship between cardiac output and carbon dioxide and oxygen pressures of arterial blood; in particular, the findings that "cardiac output increases rapidly and enormously as the MRR increases, and cardiac output increases as arterial CO2 [carbon dioxide] pressure increases and as arterial O_2 [oxygen] pressure decreases." *Id*. 2:9-13.
The present invention is based upon the inventor's finding that a patient's metabolic rate ratio (MRR) can be reliably determined under both steady state and transient conditions without measuring oxygen uptake by employing data indicative of the patient's carbon dioxide and oxygen pressures of arterial blood and the patient's cardiac output.

Id. 1:51-57. In light of the intrinsic evidence defining "cardiac function" as "cardiac output" or "heart rate and stroke volume," it would be improper to allow Dr. Tehrani to redefine and broaden the term "cardiac function" in the '259 Patent for purposes of this litigation based on extrinsic evidence.
In the absence of something in the written description and/or prosecution history to provide explicit or implicit notice to the public-i.e., those of ordinary skill in the art-that the inventor intended a disputed term to cover more than the ordinary and customary meaning revealed by the context of the intrinsic record, it is improper to read the term to encompass a broader definition simply because it may be found in a dictionary, treatise, or other extrinsic source.

Nystrom, 424 F.3d at 1145. Nothing in the '259 Patent's definition indicates that cardiac function as the term is used in the '259 Patent can be anything other than a patient's "heart rate and stroke volume" or "cardiac output data." Accordingly, the fact that after filing her motion for claim construction, Dr. Tehrani found a *Mechanical Ventilation* textbook with a section entitled "terms specific to cardiac function" FN6 does not alter the ' 259 Patent's narrower cardiac function definition, nor does it supplement the lack of requisite notice to the public in the ' 259 Patent that Dr. Tehrani intended the disputed term to encompass this broader textbook definition. In addition, given that heart rate multiplied by stroke volume results in cardiac output, the Court agrees with Defendants that "cardiac function" means "cardiac output." Thus, "cardiac function" is either "heart rate and stroke volume" or "cardiac output," i.e. the amount of the heart's blood output in a given period of time. Thus, the data provided by the first means is cardiac output data.

FN6. "There are several terms used frequently during hemodynamic monitoring. These include: heart rate, pulse pressure, stroke volume, cardiac output, cardiac index, preload, contractility, afterload, and vascular resistance." Ex. A to Decl. of Scott Maynard in Supp. of Pl.'s Opp'n to Cat Eye's Mot. for Claim Construction at A-10

Dr. Tehrani also seeks to use the doctrine of claim differentiation to support her interpretation of "cardiac function," arguing that Claims 9 and 10, which depend from Claim 1 would be rendered superfluous if Claim 1 is construed to require either stroke volume and heart rate or cardiac output. Pl.'s Opp'n to Cat Eye's Mot. for Claim Construction 3:20-25. First, on its face, this claim differentiation argument fails to defeat the Court's construction that cardiac function is either heart rate and stroke volume or cardiac output because under this interpretation, Claims 9 and 10's limitations are not superfluous, but rather dictate which type of structure supplies the cardiac function data. Specifically, Claim 9 requires that the first means include a stroke volume monitor (in addition to the heart rate monitor required by Claim 6 from which Claim 9 depends), whereas Claim 10 requires that the first means include a cardiac output monitor. Because Claim 1 permits either type of monitor (cardiac output or stroke volume plus heart rate), Claims 9 and 10 add limitations by dictating the specific type of monitor used to obtain the cardiac function data.

In addition, the doctrine of claim differentiation merely provides a presumption that different claims are of different scope. Tandon Corp. v. United States Int'l Trade Comm'n, 831 F.2d 1017, 1023-24 (Fed.Cir.1987). Describing claim elements or limitations in different words, however, does not invariably alter the scope of the claim. *Id.; see also* Multiform Desiccants, Inc. v. Medzam Ltd., 133 F.3d 1473, 1480 (Fed.Cir.1998) (claims "written in different words may ultimately cover substantially the same subject matter"). "[T]he written description and prosecution history overcome any presumption arising from the doctrine of claim differentiation." Kraft Foods, Inc. v. Int'l Trading Co., 203 F.3d 1362, 1368 (Fed.Cir.2000). Claim differentiation is not a "hard and fast rule of construction, and cannot be relied upon to broaden claims beyond their correct scope." Wenger Mfg., Inc. v. Coating Mach. Sys., Inc., 239 F.3d 1225, 1233 (Fed.Cir.2001) (internal quotations omitted); *accord* Tandon Corp., 831 F.2d at 1024 ("Whether or not claims differ from each other, one can not interpret a claim to be broader than what is contained in the specification and claims as filed"). Here, the intrinsic evidence supporting the interpretation that cardiac function is cardiac output or heart rate and stroke volume trumps any presumptions that may arise from the doctrine of claim differentiation.

Basic terminology employed in various claims of the '259 Patent further highlights the flaws in Dr. Tehrani's argument. First, Claim 6's use of the term "comprises" ("first means *comprises* a heart monitor") indicates merely that the first means includes at least a heart rate monitor. The word "comprise" is a term of art in patent law indicating that the claim is "inclusive or open-ended and does not exclude additional, unrecited elements or method steps." Georgia-Pacific Corp. v. United States Gypsum Co., 195 F.3d 1322, 1327 (Fed.Cir.1999). "A drafter uses the term 'comprising' to mean 'I claim at least what follows and potentially more.' " Vehicular Techs. Corp. v. Titan Wheel Int'l, Inc., 212 F.3d 1377, 1383 (Fed.Cir.2000). Accordingly, Claim 6 merely states that the first means includes at least a heart rate monitor.

Additionally, Dr. Tehrani's argument that the "a" modifying "cardiac function" in the first means of Claim 1 indicates that only the single function of heart rate is needed is similarly misguided. As the Federal Circuit "has repeatedly emphasized," the "indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising.' " KCJ Corp. v. Kinetic Concepts, Inc., 223 F.3d 1351, 1356 (Fed.Cir.2000). Therefore, "[u]nless the claim is specific as to the

number of elements, the article 'a' receives a singular interpretation only in rare circumstances when the patentee evinces a clear intent to so limit the article." *Id*. Nothing in the '259 Patent indicates an intent to so limit the article. In fact, the possibility of more than one kind of cardiac function data is found in the teaching that "cardiac function" can be data from heart rate and stroke volume monitors. Accordingly, the conventional rule applies that "the claim limitation 'a,' without more, requires at least one." Id. In every embodiment, cardiac output is used; when a cardiac output monitor is not used, devices for providing the patient's stroke volume and heart rate are taught so that cardiac output can be calculated. The sole teaching in the ' 259 Patent where only a single "cardiac function" is used is with cardiac output. Thus, even where the patient embodiment utilizes a single cardiac function, that function is cardiac output, not heart rate.

As to the corresponding structure, the '259 Patent teaches that cardiac output is either measured by a cardiac output monitor or computed from heart rate and stroke volume, in which case stroke volume is measured via a stroke volume monitor either continuously or prior to operation of the system FN7 and heart rate is measured via a heart rate monitor. Thus, the structures disclosed in the ' 259 Patent for obtaining cardiac function data are (1) a cardiac output monitor or (2) a heart rate monitor in combination with a stroke volume monitor, whereby cardiac output is calculated by multiplying heart rate by stroke volume.

FN7. Even though stroke volume need not be continuously monitored in one preferred embodiment of the invention, the '259 Patent still requires that stroke volume be "obtained from the patient prior to operation of the system" and input as a constant. '259 Patent 5:43-48. Thus, while stroke volume can be input as a constant, there is no teaching or claim in the Patent permitting a generic representative value for stroke volume to be used in lieu of the patient's actual stroke volume. Thus, regardless of when and how stroke volume is monitored, in all embodiments, it is obtained from the patient, i.e. measured.

Finally, given that the first means is properly limited to a structure that provides a patient's cardiac output, the first means also includes sensors for monitoring blood gas pressures because the '259 Patent teaches that the CO2 and O_2 pressures are factors that contribute to a patient's cardiac output. Moreover, in every variation of the patient apparatus, the first means includes a structure for supplying the cardiac output of a patient, which includes the effects of CO2 and O_2 blood gas pressures. Even Dr. Tehrani acknowledges that it is necessary to have blood gas monitors with the embodiment for a nonhealthy subject, i.e. a patient. Dep. of Fleur Tehrani, Ex. 4 to Kuo Opp'n Claim Decl.

The Court therefore adopts Defendants proposed construction of the first means of Claim 1: "the structure to provide the data used by the equations 1-9 of the '259 Patent, which must include sensors to measure the patient's arterial CO2 and O_2 gas pressures and either a heart rate monitor and data representative of stroke volume or a cardiac output monitor."

Given that the proper construction of the first means of Claim 1 resolves the issue of infringement, the Court need not construe the other disputed claims.

III. SUMMARY JUDGMENT

A. LEGAL STANDARD

Summary judgment is proper if "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that

the moving party is entitled to judgment as a matter of law." Fed.R.Civ.P. 56(c).

The Court must view the facts and draw inferences in the manner most favorable to the non-moving party. United States v. Diebold, Inc., 369 U.S. 654, 655, 82 S.Ct. 993, 8 L.Ed.2d 176 (1962); Chevron Corp. v. Pennzoil Co., 974 F.2d 1156, 1161 (9th Cir.1992). The moving party bears the initial burden of demonstrating the absence of a genuine issue of material fact for trial, but it need not disprove the other party's case. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 256, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986); Celotex Corp. v. Catrett, 477 U.S. 317, 323-25, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986). When the non-moving party bears the burden of proving the claim or defense, the moving party can meet its burden by pointing out the absence of evidence of a genuine issue of material fact from the non-moving party. Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc., 200 F.3d 795, 806-07 (Fed.Cir.1999).

Once the moving party meets its burden, the "adverse party may not rest upon the mere allegations or denials of the adverse party's pleading, but the adverse party's response, by affidavits or as otherwise provided in this rule, must set forth specific facts showing that there is a genuine issue for trial. If the adverse party does not so respond, summary judgment, if appropriate, shall be entered against the adverse party." Fed.R.Civ.P. 56(e); *see also* Anderson, 477 U.S. at 248-49. Furthermore, a party cannot create a genuine issue of material fact simply by making assertions in its legal papers. There must be specific, admissible evidence identifying the basis for the dispute. S.A. Empresa de Viacao Aerea Rio Grandense v. Walter Kidde & Co., Inc., 690 F.2d 1235, 1238 (9th Cir.1980). The Supreme Court has held that "[t]he mere existence of a scintilla of evidence ... will be insufficient; there must be evidence on which the jury could reasonably find for [the opposing party]." Anderson, 477 U.S. at 252.

B. NON-INFRINGEMENT

After interpreting the asserted claims to determine their meaning and scope, a court performing a literal infringement analysis must determine whether those claims read on the accused product. Southwall Tech., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1575 (Fed.Cir.1995). "To establish literal infringement, every limitation set forth in a claim must be found in an accused product, exactly." *Id*. In particular, "[l]iteral infringement of a means-plus-function claim requires that the relevant structure in the accused device perform the identical function recited in the claim and be identical or equivalent to the corresponding structure in the specification." Lockheed Martin Corp. v. Space Systems/Loral, Inc., 324 F.3d 1308 (Fed.Cir.2003). Because Claim 1 is the only independent claim asserted, it provides the broadest patent protection possible and is thus the focus of Defendants' assertion of non-infringement.

"A determination of infringement, both literal and under the doctrine of equivalents, is a question of fact." Dow Chem. Co. v. Sumitomo Chem. Co., 257 F.3d 1364, 1372 (Fed.Cir.2001). However, the question of infringement becomes a question of law where the parties do not dispute any relevant facts regarding the structure or composition of the accused device. Athletic Alternatives v. Prince Mfg., 73 F.3d 1573, 1578 (Fed.Cir.1996). "Thus, a literal infringement issue is properly decided upon summary judgment when no genuine issue of material fact exists, in particular, when no reasonable jury could find that every limitation recited in the properly construed claim either is or is not found in the accused device." Bai v.L & L Wings, 160 F.3d 1350, 1353 (Fed.Cir.1998). In this case, the parties do not dispute the relevant facts about the accused devices. Instead, their dispute centers around the proper claim construction. Thus, now that the Court has construed the first means of Claim 1, infringement can be determined as a matter of law.

It is undisputed that Defendants Polar, Physi-Cal, and Cat Eye's accused devices only measure heart rate.

The accused devices, therefore, do not perform the identical function as the first means of Claim 1 in the '259 Patent because the devices do not provide cardiac function data, i.e. cardiac output (measured or calculated with stroke volume) and blood gas levels. *See* IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1430 (Fed.Cir.2000) (identical function must be performed to reach next step of infringement analysis, i.e. determining whether accused device uses the same structure or equivalents). Claims 6-8 depend from Claim 1. Because the alleged devices do not infringe Claim 1, they therefore cannot infringe Claims 6-8. Wahpeton Canvas Co. v. Frontier, Inc., 870 F.2d 1546, 1552 n. 9 (Fed.Cir.1989) ("One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.").

Consequently, none of the accused devices infringe Dr. Tehrani's ' 259 Patent as a matter of law.

C. VALIDITY

To the extent Polar's and Cat Eye's Motions seek summary judgment on the grounds of the '259 Patent's alleged invalidity, the Motions are DENIED as moot since the Court need not reach this issue in light of its non-infringement ruling.

IV. DISPOSITION

For the reasons set forth above, (1) Physi-Cal's Motion for Summary Judgment of Non-Infringement is hereby GRANTED; (2) Polar's Motion for Summary Judgment is hereby GRANTED on the grounds of Non-Infringement; (3) Cat Eye's Motion for Summary Judgment is hereby GRANTED on the grounds of Non-Infringement; and Plaintiff's Motion for Summary Judgment of Infringement is hereby DENIED. The Court hereby STAYS Defendants' invalidity counterclaims and CERTIFIES its finding of non-infringement pursuant to Fed.R.Civ.P. 54(b).

IT IS SO ORDERED.

C.D.Cal.,2007.
Tehrani v. International Cycle Works, Inc.