Note

An Unacceptable Exception: The Ramifications of Physician Immunity from Medical Procedure Patent Infringement Liability

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Medical procedure patents first drew political attention in 1993 after Samuel Pallin sued fellow doctor Jack Singer for infringing his cataract surgery procedure patent.1 The lawsuit resulted in an outcry from the medical community,2 culminating in a vote of the American Medical Association (AMA) House of Delegates to condemn medical and surgical procedure patents.3 In response to the AMA’s lobbying,4 Congress passed 35 U.S.C. § 287(c), which did not change the patentability of medical procedures, but instead made medical professionals and their associated healthcare entities immune from infringement liability.5

With the passage of § 287(c), Congress created significant problems. First, because medical procedure patents are now unenforceable,6 they are effectively useless.7 It is impossible to

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2. William D. Noonan, Patenting Medical and Surgical Procedures, 77 J. PAT. & TRADEMARK OFF. SOC’Y 651, 651 (1995). One physician stated that a victory by the plaintiff in the lawsuit could cause “profoundly devastating and mind-boggling consequences.” Id. The AMA called these patents “horrendous.” Id.

3. Id.


determine how many medical procedures have gone undeveloped as a result of lost funding due to unenforceable patents. Even for developed procedures, doctors may now be resorting to trade secrecy to obtain protection because Congress has eliminated the benefits of patent protection. Second, § 287(c) violates the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Any TRIPS violation sets a precedent for other nations to apply similar exceptions to other technologies. The United States must take the lead in intellectual property enforcement, because reduced intellectual property protection results in lost jobs and increased costs to U.S. consumers. Thus, the growing importance of intellectual property protection abroad warrants further review of any provision in which U.S. compliance with TRIPS is questionable.

This Note argues that because § 287(c) violates TRIPS, Congress must find an alternative solution that appropriately balances the ethical and economic concerns regarding medical

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for a Compromise Between Ethics and Economics, 18 CARDOZO L. REV. 1527, 1557 (1997) (describing how the statute renders “patents unenforceable against the most frequent users of the patented procedures”).


8. Cf. id. (stating that it is unknown whether medical procedures develop swiftly without patent protection).


10. See 142 CONG. REC. S11,845 (daily ed. Sept. 30, 1996) (letter from Sen. Hatch) (arguing that the statute raises questions about compliance with TRIPS); Ho, supra note 9, at 655–70 (detailing § 287(c)’s noncompliance with TRIPS).

11. See Ho, supra note 9, at 671–72.


procedure patents. Part I describes the general patentability of medical procedures under U.S. law and the debate over these patents. Part II discusses the problems that § 287(c) poses under TRIPS. Finally, Part III addresses potential solutions and proposes a TRIPS-compliant compulsory licensing system. This Note concludes that the most appropriate way to address the ethical concerns regarding medical procedure patents while providing an incentive to innovate is to adopt a compulsory licensing scheme that meets the TRIPS criteria.

I. THE DEBATE OVER MEDICAL PROCEDURE PATENTABILITY

The patent system derives from Congress’s constitutional power “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”15 Patents are considered necessary to encourage innovation by protecting the capital investments required to develop new technology.16 Thus, the function of patents is not to reward inventors,17 but to “secure the invention for public benefit.”18

It is well established that medical procedures are patentable under U.S. law.19 Since 1954, when the Patent Office held that medical and surgical methods were patentable,20 numerous medical and surgical procedure patents have been issued.21 After the Pallin litigation, however, the AMA called for Congress to abolish these patents.22 The following sections describe the arguments for and against patentability of medical

19. Ho, supra note 9, at 611.
procedures and the congressional response to the AMA's concerns.

A. THE ARGUMENTS FOR AND AGAINST PATENTABILITY

The AMA argued that medical procedure patents compromise patients' rights to privacy, practitioners' freedom, the dissemination of information, and access to procedures at reasonable costs. However, many academics consider patents necessary to encourage investment in the invention and development of new technologies. These proponents argue that the AMA's ethical objections have no force because, in the absence of patents, innovation is stymied. Thus, more people are harmed in the absence of patent protection because many beneficial procedures go undeveloped.

1. Patients' Rights to Privacy

Opponents of medical procedure patents argued that monitoring medical activity for infringement would compromise physician-patient confidentiality. This confidentiality benefits public and individual health because “it encourages the patient to fully disclose his condition[, which makes] diagnosis more accurate and therapy more effective.” Yet, even opponents noted that it is possible to enforce patents without compromising confidentiality. Infringement litigation does not require disclosure of confidential patient information. Moreover, in practice, patient confidentiality is not absolute even in the absence of patent infringement litigation. Thus, most scholars have dismissed this confidentiality argument.

23. See id. at 3–7.
24. See, e.g., Noonan, supra note 2, at 656–57.
25. See Burch, supra note 18, at 1142; see also 142 Cong. Rec. S11,845 (daily ed. Sept. 30, 1996) (letter from Sen. Hatch) (“It is impossible to state categorically . . . that tomorrow’s advances in ‘pure’ medical procedures will take place as expeditiously as possible absent patent protection.”).
26. See Burch, supra note 18, at 1142 (describing the link between medical procedure patents and increased quality of health care).
27. See AMA REPORT, supra note 22, at 5.
28. Burch, supra note 18, at 1155.
29. See AMA REPORT, supra note 22, at 5.
30. Lee, supra note 4, at 715.
31. Burch, supra note 18, at 1155.
32. See, e.g., Ho, supra note 9, at 633–34; Lee, supra note 4, at 715.
2. Practitioner Freedom and Doctors’ Duties to Patients

The AMA also expressed concern that a patent could influence a doctor’s medical judgment. Some physicians might perform an inferior procedure rather than license the patented procedure or risk an infringement suit. Thus, these patents decrease physician autonomy and compromise a doctor’s duty to provide the best medical care to the patient regardless of cost. On the other hand, proponents of medical procedure patents noted that absolute discretion of the physician is unrealistic notwithstanding patent considerations. Furthermore, the fiduciary duties that doctors already face alleviate any potential compromise to patient care. Because doctors have a duty to fully disclose all of their interests when giving the patient a choice of procedures, the patient is able to make an informed decision, taking the costs of licensing and alternate procedures into consideration.

3. Incentives to Disclose: Preventing Secret Procedures

The AMA argued that medical procedure patents encourage physicians to withhold information—an incentive which violates the obligation of the medical profession to “share techniques as needed.” Physicians believe that patenting these procedures slows the dissemination of information about new techniques to the public. Thus, opponents of medical procedure patents argued, when a physician has the option of patenting a medical technique, she will be more likely to refrain from publishing that technique in a medical journal until she files her patent application or even until the patent is issued.

This contention ignores the fact that publication does not preclude patentability in the United States if the patent appli-
cation is filed within one year of publication. In fact, proponents of medical procedure patents argue that these patents reduce secrecy by requiring disclosure, which is one of the primary purposes of patent law. Without this protection, physicians could choose to protect their inventions as trade secrets. This alternative would be detrimental to the health system, because many procedures would not be available to the general public.

4. Access to Procedures and the Incentive to Innovate

The argument the AMA stressed most heavily was that medical procedure patents would result in reduced availability of procedures. A patentee could restrict the number of licenses or charge a high price for licensing—actions which would decrease patient access to the treatments and increase patient costs. Additionally, patented procedures are not peer-reviewed—unless they are licensees, other physicians cannot study patented procedures without infringing the patent. These arguments are compelling; however, they only apply if innovation would continue to occur absent patent protection.

43. See 35 U.S.C. § 102(b) (2000); Meier, supra note 1, at 268.
44. See Gocyk-Farber, supra note 6, at 1539.
45. See United States v. Dubilier Condenser Corp., 289 U.S. 178, 186–87 (1933) (“In consideration of [the inventor’s] disclosure and the consequent benefit to the community, the patent is granted. An exclusive enjoyment is guaranteed him for seventeen years, but upon the expiration of that period, the knowledge of the invention ensures to the people, who are thus enabled without restriction to practice it and profit by its use.”), amended by 289 U.S. 706 (1933).
47. See Burch, supra note 18, at 1142 (stating that the advancement of medical knowledge increases the quality of society’s healthcare system).
48. See J.H. Reichman, Legal Hybrids Between the Patent and Copyright Paradigms, 94 COLUM. L. REV. 2432, 2507 (2006) (describing the social costs of trade secrecy to include the obligation to hide valuable information from the public).
49. See AMA REPORT, supra note 22, at 3–5.
50. Id. at 3; see also 142 CONG. REC. S12,023 (daily ed. Sept. 30, 1996) (statement of Sen. Frist) (“[H]ealth care costs would explode if doctors charged licensing fees for every new surgical or medical techniques [sic] they developed.”).
51. AMA REPORT, supra note 22, at 4.
52. See Burch, supra note 18, at 1142.
If eliminating medical procedure patents removes the incentive to innovate, the result would be a decrease, rather than an increase, in the availability of medical procedures. Thus, the AMA’s argument only has force if the medical procedures would have been developed in the absence of patent protection.

The AMA supported its claims by suggesting that patenting medical procedures was unnecessary to promote innovation because “the development of medical processes usually relies on intellectual curiosity rather than the availability of capital for research and development.” This argument reflects an assumption that physicians develop medical procedures, unlike medical devices and pharmaceuticals, during the course of practice. Additionally, the AMA asserted that professional rewards such as recognition, respect, and publication were sufficient to encourage invention.

No empirical study has determined the developmental costs of medical procedures. While it is true that, unlike medical devices and pharmaceuticals, medical procedures do not require the investment necessary to gain FDA approval, it is impossible to state categorically that these procedures are inexpensive to develop. Indeed, several notable medical procedures required significant funding to develop. The Surrogate

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53. See 142 CONG. REC. S11,845 (daily ed. Sept. 30, 1996) (letter from Sen. Hatch) (“It would be really quite tragic if we were to find that a very large loophole were to be opened in the patent system that would cause investment in some of the most important technology—not just from an economic point of view but from a life-saving point of view, to cause that investment to dry up.”); Katopis, supra note 9, at 385 (“[T]he lack of benefit for these investors would lead to limited patient access to new discoveries as people would be reluctant to invent.”).

54. See Burch, supra note 18, at 1142 (“If the grant of a medical process patent decreases the availability of a health care process, an ethical objection may arise. This ethical objection fails, however, if patent protection is necessary to make the medical procedure possible in the first place.”).

55. AMA REPORT, supra note 22, at 7; see also 142 CONG. REC. S12,024 (daily ed. Sept. 30, 1996) (statement of Sen. Frist) (“Unlike innovations in medical devices or drugs, pure-procedure innovations do not require huge investments of capital.”).

56. Ho, supra note 9, at 615–16.

57. Id. at 614; see also AMA REPORT, supra note 22, at 6 (describing how the “prospect of publication” provided an incentive for Dr. Pallin to develop the new cataract surgery procedure).

58. Ho, supra note 9, at 615.


60. See Lee, supra note 4, at 716.
Embryo Transfer procedure research required a $500,000 capital investment because the National Institutes of Health would not provide financial support.61 This funding would not have been available were there no chance that the invention could be patented,62 because private investors view patents as important for securing returns on their investments.63 Thus, the arguments against patenting medical procedures hold no force if eliminating these patents "kill[s] the 'goose that lays the golden egg.'"64 The costs of patenting are warranted if the procedure would never have been developed in the absence of patent protection.65

B. THE CONGRESSIONAL RESPONSE: THE MEDICAL PRACTITIONER IMMUNITY STATUTE

After the AMA's protest, Congress considered legislation designed to address the ethical concerns of the AMA and opponents of medical procedure patents.66 Senator Greg Ganske first proposed a bill that excluded medical procedures from patentability.67 Senator Bill Frist responded by introducing the Medical Procedures Innovation and Affordability Act, which provided that it is not infringement for a patient, physician, or licensed healthcare practitioner to use or induce others to use a patented medical procedure.68 In the debate over these bills, legislators decided early on to focus on the available remedies
for infringement rather than on patentability.\textsuperscript{69} This compromise between the Ganske and Frist proposals was appended to the Omnibus Consolidated Appropriations Act and signed into law on September 30, 1996.\textsuperscript{70}

The resulting statute exempts medical practitioners and their employers from liability for infringing a medical procedure patent filed after September 30, 1996.\textsuperscript{71} Thus, the patentee has no remedy for a medical practitioner’s or related healthcare entity’s infringement.\textsuperscript{72} Although the inventor has a patent on his procedure, it is the equivalent of “no patent at all.”\textsuperscript{73} This solution is problematic. It provides no means for a patentee to collect royalties, and thus creates no financial incentive to innovate.\textsuperscript{74} Moreover, without patent enforcement, doctors are encouraged to protect their innovations as trade secrets.\textsuperscript{75} Finally, the amendment violates TRIPS and may have serious implications for intellectual property protection abroad.\textsuperscript{76} This final concern is the focus of this Note.

\textbf{II. THE INTERNATIONAL ASPECT OF THE DEBATE OVER MEDICAL PROCEDURE PATENTS}

The World Trade Organization (WTO) was established in 1995, and TRIPS is a mandatory component of the WTO sys-

\begin{itemize}
\item \textsuperscript{69} Mossinghoff, \textit{supra} note 67, at 795.
\item \textsuperscript{71} See 35 U.S.C. § 287(c) (2000).
\item \textsuperscript{72} Lee, \textit{supra} note 4, at 708.
\item \textsuperscript{74} See \textit{id.} at S11,847 (describing the Surrogate Embryo Transfer procedure and arguing that patents are necessary for innovation when the costs of research are high).
\item \textsuperscript{75} See Katopis, \textit{supra} note 9, at 365. It follows that if the amendment results in medical procedure patents being the equivalent of “no patent at all,” 142 CONG. REC. S11,845 (daily ed. Sept. 30, 1996) (letter from Sen. Hatch), the same trade secrecy could result from § 287(c). Cf. Ho, \textit{supra} note 9, at 613 n.54 (“[A]rguments against the patenting of medical procedures are equally applicable to arguments against enforcing medical procedure patents . . . .”).
\item \textsuperscript{76} See 142 CONG. REC. S11,843–44 (daily ed. Sept. 30, 1996) (letter from Jennifer Hillman, Office of the U.S. Trade Representative) (describing the international implications of the proposed limitation); \textit{id.} at S11,845 (daily ed. Sept. 30, 1996) (letter from Sen. Hatch) (describing the complicated issues the statute raises under TRIPS and stating that “[t]here is no consensus on these issues”).
\end{itemize}
Thus, as a member of the WTO, the United States is subject to TRIPS, a comprehensive agreement on intellectual property protection. TRIPS has been extremely successful, providing the United States with “new tools with which to badger recalcitrant countries, especially in the developing world.” As members of the WTO, many important developing countries are subject to the TRIPS provisions. These countries are of great economic concern to the United States because of their underdeveloped intellectual property regimes and their potential for economic, political, and social power.

During the debate over § 287(c), Senator Orrin Hatch, Chairman of the Senate Finance and Judiciary Committee, repeatedly expressed concern that Congress had failed to adequately address TRIPS compliance. Others, including the U.S. Trade Representative and the American Intellectual Property Law Association, voiced similar concerns. The following sections detail how § 287(c) violates TRIPS and the potential impact of that violation.

A. MEDICAL PRACTITIONER IMMUNITY VIOLATES TRIPS

TRIPS requires that patents confer on their owners the right to exclude others from making, using, or selling the patented invention. In addition, patent rights must be available without discrimination by field of technology. However, under

78. See *PIRES DE CARVALHO*, supra note 17, at 28 (describing the unique “comprehensiveness” of TRIPS).
81. See *Bird*, supra note 14, at 317–19 (describing developing countries’ weak intellectual property schemes and expanding economic markets).
83. See id. at S11,843 (letter from Jennifer Hillman, Office of the U.S. Trade Representative).
84. See id. at S11,845 (letter from Sen. Hatch).
86. *Id.* art. 27.
Article 30, member countries may provide exceptions to these rights if the "exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties." Article 31 also allows exceptions in the form of compulsory licensing, but imposes certain requirements on those exceptions. For example, the license must be based on individual merits, the potential licensee must attempt to negotiate a license with the patentee prior to obtaining a compulsory license, and the patentee must receive adequate remuneration. This section examines how medical practitioner immunity from infringement liability violates these TRIPS mandates.

1. The Right to Exclude

TRIPS Article 28 requires that a patent provide the patentee with the right to exclude others from making and using the patented invention. With an infringement exemption for medical procedure patents, patentees have no way of enforcing that right in the United States. Patentees cannot sue medical practitioners, the most likely infringers of their product, for either damages or an injunction prohibiting use of the patented device. As a result, any medical practitioner can use the patented product without paying royalties. Prohibiting such unauthorized use is the essence of the right to exclude. Thus,

87. Id. art. 30.
88. Ho, supra note 9, at 668–69; see also TRIPS Agreement, supra note 85, art. 31.
89. TRIPS Agreement, supra note 85, art. 31(a).
90. Id. art. 31(b).
91. Id. art. 31(h).
92. See id. art. 28.
93. See 142 CONG. REC. S11,843 (daily ed. Sept. 30, 1996) (statement of Sen. Hatch) ("The amendment would preclude a certain class of patent-holders from enforcing their patent rights against infringement, a change that renders these patents virtually meaningless.").
94. See id. at S11,845 (letter from Sen. Hatch) (noting that medical practitioners are "the most likely class of infringers" of medical procedure patents).
95. Under 35 U.S.C. § 287(c) (2000), patentees may not sue a medical practitioner or associated healthcare entity for either damages or injunctive relief for performing a medical activity.
96. See TRIPS Agreement, supra note 85, art. 28 (describing the right to exclude for a process as the right "to prevent third parties not having [the owner's] consent from the act of using the process"); PIRES DE CARVALHO, supra note 17, at 247–51 (describing the scope of the exclusive rights).
§ 287(c) undermines patentees' rights to exclude others from using their inventions, in contravention of TRIPS.

2. Availability Without Discrimination as to the Field of Technology

Under TRIPS, patent rights must be available without discrimination as to the field of technology.97 This rule against discrimination is subject to the exclusions from patentability, but these exclusions apply to patentability, not enforcement.98 Thus, a country may exclude medical procedures from patentability, but all patents that it grants must be enforceable.100 The TRIPS drafters added Article 27 to address concerns that patents would be granted but not enforced, which is precisely what Congress authorized in § 287(c).101 Some critics argue that this discrimination is justified because of ethical concerns, but TRIPS categorically prohibits all discriminatory acts, whether justifiable or not.104 Thus, an exception based on enforcement rather than patentability violates TRIPS unless the exception meets the requirements of Article 30 or 31.

3. Acceptable Exceptions

TRIPS Article 30 allows countries to make exceptions to patent rights provided that the exceptions "do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties."105 TRIPS allows for only a very narrow exception to patent rights;106 it does not permit undermining the substantive TRIPS provisions entirely.107 An earlier draft of Article 30 sug-

97. See TRIPS Agreement, supra note 85, art. 27.
98. PIRES DE CARVALHO, supra note 17, at 167.
99. Ho, supra note 9, at 657–58.
100. Id.
101. Id. at 659.
102. See id. at 613 n.54 ("[S]ection 287(c) precludes complete patent protection by denying full enforceability of patents.").
103. In support of the medical practitioner infringement exemption, Senator Frist described the AMA’s various concerns regarding medical procedure patents. See 142 CONG. REC. S12,023–24 (daily ed. Sept. 30, 1996). These concerns were all ethical in nature. See id.
104. PIRES DE CARVALHO, supra note 17, at 170.
105. TRIPS Agreement, supra note 85, art. 30.
106. PIRES DE CARVALHO, supra note 17, at 396.
107. Ho, supra note 9, at 661.
gested prior use, non-commercial use, and experimental use as
examples of acceptable exceptions.\textsuperscript{108} Although these examples
were not included in the final language of TRIPS, they “reveal
what drafters envisioned as appropriate balances under
[Article 30].”\textsuperscript{109}

One commentator argues that because medical patents are
usually not enforced against doctors, this exemption does not
unreasonably conflict with the normal exploitation of patents in
the medical field.\textsuperscript{110} However, in the case of medical procedure
patents, medical practitioners are the most likely to use the
patent.\textsuperscript{111} Granting these practitioners immunity from liability
prevents the patentee from making a profit by licensing tech-
nology to those who will use it.\textsuperscript{112} Furthermore, the § 287(c) ex-
ception goes far beyond any of the examples the TRIPS framers
suggested. None of these examples goes so far as to prohibit in-
definitely enforcement against the most likely users of a pat-
ented process.\textsuperscript{113} Thus, the exemption seriously undermines the
legitimate interests of the patent owner.\textsuperscript{114} Although patients’
interests are relevant,\textsuperscript{115} the exceptions cannot “emasculate the
general principles established in the agreements.”\textsuperscript{116}

One scholar also suggests that Article 30 is only appropri-
ate in the absence of a specific Article 27 exception.\textsuperscript{117} Because
Article 27 explicitly authorizes exclusion of medical procedures
from patentability, Article 30 cannot be used to “dilute” the
regular patent rules.\textsuperscript{118} Thus, the physician immunity statute
is not an appropriate exception under Article 30. The physician
immunity statute also is not an appropriate compulsory licens-
ing system under Article 31, because it does not meet the speci-

\begin{footnotesize}
\textsuperscript{108} See Daniel Gervais, The TRIPS Agreement: Drafting History
And Analysis 158 (1998); see also Ho, supra note 9, at 666.
\textsuperscript{109} Ho, supra note 9, at 666.
\textsuperscript{110} See Mossinghoff, supra note 67, at 796–97.
Hatch).
\textsuperscript{112} See Ho, supra note 9, at 666.
\textsuperscript{113} See Gervais, supra note 108, at 158; see also Ho, supra note 9, at 666.
\textsuperscript{114} See Ho, supra note 9, at 661–63.
\textsuperscript{115} Article 30 takes third-party interests into account when considering
the propriety of an exception. See TRIPS Agreement, supra note 85, art. 30.
\textsuperscript{116} Ho, supra note 9, at 661.
\textsuperscript{117} See Gervais, supra note 108, at 159.
\textsuperscript{118} Id. (“The general exception may thus be invoked only where no special
exception exists, and not to dilute rules applying to such specific exceptions.”).
\end{footnotesize}
fied requirements. Most notably, the patentee receives no royalties.

B. THE IMPACT OF A TRIPS VIOLATION ON THE UNITED STATES

The failure of the United States to adhere to TRIPS may result in trade retaliation. More importantly, however, it may have serious effects on the ability of the United States to increase intellectual property protection in important emerging economies.

1. The Importance of Intellectual Property Protection in Emerging Economies

Protection of intellectual property assets abroad is a topic of utmost importance to U.S. companies, inventors, and government officials. Intellectual property protection is important for maintaining American jobs and ensuring low costs for American consumers, because piracy results in an unfair competitive advantage for companies that do not pay the costs of research and development. Emerging economies represent some of the largest potential markets for American products. Unfortunately, these markets also present serious difficulties for intellectual property protection. The United States has led efforts to increase intellectual property protection in these countries and has made large strides toward that goal. For example, China—one of the most important emerging economies—joined the WTO and became immediately subject to TRIPS. However, intellectual property protection in China

119. See Ho, supra note 9, at 668–70. For a complete list of the Article 31 requirements, see TRIPS Agreement, supra note 85, art. 31.

120. Ho, supra note 9, at 653.

121. See Bird, supra note 14, at 317; Schwab, supra note 12, at 2.


123. See CALLAN, supra note 79, at 31 (“The emerging markets . . . promise an ever growing, ever richer consumer base for IP products.”); Bird, supra note 14, at 317–19 (describing the growth of emerging markets and their importance to American firms).

124. See Bird, supra note 14, at 318–19 (“The lack of intellectual property rights protection ranks for many firms as the single most significant threat to their international competitiveness.”); Schwab, supra note 12, at 1 (illustrating U.S. industries’ losses from piracy).

125. TRIPS has been a success, giving the United States tools with which to encourage developing countries to provide adequate intellectual property protection. See CALLAN, supra note 79, at 18.

126. Delaney, supra note 80, at 368.
and other emerging economies remains problematic as underdeveloped enforcement mechanisms allow piracy to run rampant.

2. The Precedential Effects of a U.S. TRIPS Violation

If the United States wishes to continue strengthening its intellectual property protection abroad, it must remain a leader in intellectual property protection. One of the foremost ways the United States can show leadership is by fully complying with the TRIPS provisions. The § 287(c) exception is not based upon the optional exclusion from patentability, but upon ethical considerations relating to enforcement, which apply with equal force to pharmaceuticals and medical devices. These types of intellectual property are key technologies, the rights of which are important for the United States to protect abroad. Should § 287(c) remain intact, it will create a dangerous precedent. Other countries may argue that because of ethical considerations, the legitimate interests of third parties

127. See id.
129. See Schwab, supra note 12, at 12 (“[I]t is important that we are out in front, that we play a leadership role and lead by example to encourage other countries to do more.”).
130. See 142 CONG. REC. S11,844 (daily ed. Sept. 30, 1996) (statement of Sen. Hatch); see also Ho, supra note 9, at 671 (“[E]ven an appearance of a TRIPS violation may impact how other member nations implement TRIPS and how they react to the United States in future discussions regarding intellectual property protection.”).
132. The AMA was once concerned with the patenting of drugs and medical devices. See Katopis, supra note 9, at 353–54. While the incentives to innovate are arguably different, the ethical concerns over patenting medical devices are virtually the same as the ethical concerns about medical procedure patents. See id. at 356. Similarly, developing nations often cite access to pharmaceuticals as a justification for compulsory licensing. See Susan Vastano Vaughan, Compulsory Licensing of Pharmaceuticals Under TRIPS: What Standard of Compensation?, 25 HASTINGS INT’L & COMP. L. REV. 87, 101–02 (2001).
133. The loss to the pharmaceutical industry due to intellectual property infringement is estimated at twenty-two billion dollars per year. Schwab, supra note 12, at 1.
134. See Ho, supra note 9, at 672 (“Other nations may be less likely to uphold the TRIPS provisions if they perceive that the United States, a major proponent of the TRIPS agreement, ignores its provisions.”); Meier, supra note 1, at 276–77 (“Since the new law allows an infringement liability exception, other GATT-TRIPs members might follow this example and apply this type of exception to other technologies.”).
justify exceptions for other technologies, such as pharmaceuticals or medical devices, under TRIPS Article 30. 135 Given the growing importance of intellectual property rights abroad, especially in the field of pharmaceuticals, 136 this is a risk that Congress must seriously consider.

III. SOLUTIONS TO THE DEBATE OVER MEDICAL PROCEDURE PATENTS

Before Congress adopted § 287(c), the AMA argued for the complete exclusion of medical procedures from patentability.137 If § 287(c) were repealed, the AMA would likely resurrect this argument. Conversely, others would argue that medical procedures should be eligible for fully enforceable patent protection. Parts III.A and III.B describe why these solutions are unsatisfactory. Part III.C proposes an appropriately designed compulsory licensing system that will address the AMA’s ethical concerns while maintaining the incentive to innovate.

A. THE PROBLEMS WITH ELIMINATING PATENTABILITY

The physician immunity statute largely addresses the ethical concerns of the medical community. 138 If Congress were to repeal this exemption because of its TRIPS implications, many physicians would argue that medical procedure patents should be excluded altogether. 139 This solution is unsatisfactory. Some important medical procedures would not have been developed

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135. The general exceptions can be applied to any field of technology, not just those specifically exempt. Cf. GERVAIS, supra note 108, at 159 (describing how the general exception only applies when no specific exception exists). Thus, other parties to TRIPS may apply such an exception to other technologies. Meier, supra note 1, at 276–77.

136. See Schwab, supra note 12, at 1 (describing the pharmaceutical industry’s losses from piracy).

137. See generally AMA REPORT, supra note 22 (describing the AMA’s ethical objections to medical procedure patents).

138. See 142 CONG. REC. S12,023 (daily ed. Sept. 30, 1996) (statement of Sen. Frist) (citing healthcare costs, invasion of privacy, the exchange of information, and peer review as reasons for the legislation); AMA REPORT, supra note 22, at 2–5 (citing increased costs of health care, patient confidentiality, and the availability of information as justifications for opposing medical procedure patents).

139. For instance, during the debate over the Ganske amendment, which would have forbidden the Patent and Trademark Office from issuing patents on medical procedures, “no one spoke against the basic thrust of the litigation.” Messinghoff, supra note 67, at 792.
without private funding.\textsuperscript{140} The AMA argues that these are rare exceptions.\textsuperscript{141} However, as technology develops, the cost of new medical procedures is increasing.\textsuperscript{142} At the same time, public funding for such procedures is decreasing.\textsuperscript{143} Private funds for research are not available without patent protection,\textsuperscript{144} because private investors view patentability as important for ensuring returns on their investments.\textsuperscript{145} While medical practitioners may view public notoriety and the health of their patients as sufficient rewards for their innovation, these benefits will not satisfy a private investor.\textsuperscript{146} Thus, without patents, venture capitalists will be unwilling to invest,\textsuperscript{147} and without capital, doctors cannot afford to develop new procedures. If medical procedures are not patentable, it is impossible to determine how many innovations will be lost due to a lack of funding.\textsuperscript{148}

In the absence of patent protection, physicians and investors would need to protect procedures that were developed at high costs as trade secrets in order to recoup their invest-

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\textsuperscript{140}. For example, the Surrogate Embryo Transfer procedure required significant cost to develop. See Noonan, supra note 2, at 657. The researchers were forced to obtain private funding after the National Institutes of Health refused to fund the research. Id.

\textsuperscript{141}. See AMA REPORT, supra note 22, at 7 (“[Surrogate Embryo Transfer] is one obvious counterexample, yet this alone does not undermine a prohibition on patenting of medical procedures, as we do not, in any context, require general rules to meet the impossible condition of working faultlessly.”).

\textsuperscript{142}. See Burch, supra note 18, at 1143.

\textsuperscript{143}. Id.

\textsuperscript{144}. See 142 CONG. REC. S11,847 (daily ed. Sept. 30, 1996) (letter from Sen. Hatch) (“It seems unlikely that the inventor of the [Surrogate Embryo Transfer] process would have gotten this private funding if the process was not patentable subject matter.”).

\textsuperscript{145}. See Gocyk-Farber, supra note 6, at 1541 (providing that investors believe patents will ensure a return on their investments); cf. Ove Granstrand, Innovations and Intellectual Property Studies: An Introduction and Overview of a Developing Field, in ECONOMICS, LAW AND INTELLECTUAL PROPERTY 9, 15 (Ove Granstrand ed., 2003) (“[W]hen innovations require investments, as for most technological innovations, some laws for public or private provision of the investments are required.”).

\textsuperscript{146}. See Granstrand, supra note 145, at 11 (“[I]ncentive structures differ among individuals, some preferring monetary rewards in the first place, some fame and social recognition, some satisfaction from achievement and so forth.”).

\textsuperscript{147}. See Gocyk-Farber, supra note 6, at 1541.

\textsuperscript{148}. See 142 CONG. REC. S11,845 (daily ed. Sept. 30, 1996) (letter from Sen. Hatch) (providing that patent protection is a means of ensuring efficient medical procedure development); Noonan, supra note 2, at 656 (“[T]he patent grant is considered necessary to . . . protect large capital investments that are often required to develop new technologies.”).
ments. Physicians could use trade secrecy to maintain monopolies and charge high prices. This response would harm society because many procedures would remain hidden from the general public. Furthermore, other physicians might try to develop similar procedures independently, a tactic which wastes societal resources by promoting duplicative research rather than new discoveries. Thus, the risks of eliminating medical procedures from patentability are too great to justify the ethical concerns these patents present.

B. THE PROBLEMS WITH FULLY ENFORCEABLE MEDICAL PROCEDURE PATENTS

An alternative to eliminating medical procedures from patentability is to simply repeal § 287(c). This approach would make medical procedure patents fully enforceable and reinstate incentives to innovate. However, this approach does not address the ethical concerns of the AMA and other opponents of these patents. Most significantly, fully enforceable patents on medical procedures would likely result in limited patient access to the procedures.

Patentees could control the licenses they grant through enforcement of their patents. Although patentees would have the incentive to license their procedures to as many physicians

149. Cf. Kent, supra note 46, at 625 (stating that inventors may seek trade secret protection if the value of patent protection decreases).

150. Trade secrets are valuable because they are not known or ascertainable by others. See KENNETH L. PORT ET AL., LICENSING INTELLECTUAL PROPERTY IN THE INFORMATION AGE 24–27 (2d ed. 2005).

151. See Reichman, supra note 48, at 2507 (“The well-known social costs of trade secret protection stem principally from the innovator’s expenses in preserving secrecy and from the obligation not to disclose technically valuable information to the public.”).

152. See Kent, supra note 46, at 625–26 (“[I]nstead of spending their resources on improvements of a disclosed innovation, they will be wastefully spending on research that duplicates the research of their competitor. As a result, the pace of innovation will slacken.”). Scholars have expressed similar concerns in other scientific fields. See Mark A. Chavez, Gene Patenting: Do the Ends Justify the Means?, 7 COMP. L. REV. & TECH. J. 255, 261–62 (2003) (describing how, in the absence of gene patents, overly duplicative “research and science would lead to a most inefficient and unethical result”); Sheldon Krimsky, The Profit of Scientific Discovery and Its Normative Implications, 75 CHI.-KENT L. REV. 15, 35 (1999) (“Scientists, instead of sharing their discoveries in a timely fashion, are protecting them as trade secrets. This has resulted in wasteful duplication of research . . . .”).

153. See Ho, supra note 9, at 674–75.

154. See Gocyk-Farber, supra note 6, at 1544–45.
as possible to increase revenues, licensees would not have access to any legal mechanism to ensure that these licenses are granted as widely as possible and at a reasonable price. For example, patentees could charge high license prices for procedures that were relatively inexpensive to develop. Furthermore, patentee doctors would be tempted to refuse licenses to hospitals with which they compete so as to attract patients and reduce competition. This alternative approach could cause the very outcomes the AMA feared—increased healthcare costs and decreased availability of procedures.

C. A COMPULSORY LICENSE SYSTEM IN LIGHT OF TRIPS

Eliminating medical procedures from patentability fails to address patentees’ and investors’ needs, but repealing § 287(c) neglects patients’ interests. A solution that balances the concerns of the medical community with incentives to innovate is necessary. Adopting a compulsory licensing scheme for medical procedure patents offers an ideal solution. Although the United States has typically been highly skeptical of compulsory licensing systems, the currently imposed physician immunity statute is essentially the equivalent of a compulsory license without remuneration. Unlike § 287(c), a compulsory licensing system ensures that patentees receive financial rewards for their inventions. Thus, in light of the goals of the U.S. patent system, a compulsory licensing system that complies with TRIPS Article 31 is a preferable alternative to the current system. If designed properly, such a system will ensure that the incentive to innovate is maintained without limiting patient access to procedures.


156. Cf. Gocyk-Farber, supra note 6, at 1545 (“[T]he patentees may charge any price for the licenses and royalties. The prices are regulated by the market; thus, according to a basic supply and demand theory.”).

157. Other articles have suggested that compulsory licensing may be a solution, but none has offered a detailed suggestion. See Ho, supra note 9, at 674; Miller, supra note 59, at 455; Noonan, supra note 2, at 664.

158. See Ho, supra note 9, at 647 (“Congress has provided for very few statutorily imposed compulsory licenses and has restricted the scope of those licenses.”).

159. See id. at 607 (calling the statute a “royalty-free, compulsory license”).
1. A Proposed Compulsory Licensing System

In order to effectively address ethical concerns while providing an incentive to innovate, Congress should adopt a compulsory licensing system including the following provisions:

First, if the parties are unable to negotiate a license after reasonable effort, a potential licensee (whether an individual healthcare provider or an employer on behalf of all its healthcare providers) may apply to an administrative board for a license to use the procedure for all patients meeting specified criteria. If the board finds that this class of patients will benefit from the procedure, it will determine a reasonable royalty based on fair market value that the licensee must pay the patentee for each procedure. Such a license will be non-exclusive and non-assignable. In the case of an emergency, however, the medical professional may use a patented procedure without prior authorization and must apply for a license within a reasonable time after use of the procedure, at which time the board will determine adequate remuneration.

Second, a patentee may waive the requirement that potential licensees individually negotiate for a license by submitting her patent to the board to determine a reasonable royalty. The board will then grant a universal license for a reasonable royalty to medical practitioners to practice the procedure on all patients meeting certain criteria. Finally, all decisions of the board shall be subject to judicial review. Any licenses granted will be available for treatment only within the United States.

A system with these features will ensure that the United States is in compliance with TRIPS. It will also maintain the incentive to innovate, while requiring that the procedure be available to all those in need.

2. TRIPS Compliance

TRIPS recognizes exceptions to patent enforceability in the form of compulsory licensing, provided the licensing scheme

160. TRIPS only permits use when the potential licensee has made previous efforts to obtain authorization from the patentee. See TRIPS Agreement, supra note 85, art. 31(b).
161. This authorization of use of the patented process is based on individual merits. See id. art. 31(a).
162. TRIPS allows waiver of the requirement of previous negotiation in the case of national emergency or extreme urgency. See id. art. 31(b).
163. Id. art. 31(b).
meets the requirements of Article 31. First, an application for a compulsory license must be “considered on its individual merits.” Thus, certain categories of inventions may not automatically become eligible for a license. “The mere fact that the prospective licensee has unsuccessfully attempted to obtain a voluntary license from the patent owner is not a sufficient reason for the grant of a compulsory license.” The proposed system does not automatically grant licenses. Instead, the board will grant a license only if the procedure will benefit a class of patients. Therefore, this proposed compulsory licensing regime satisfies this TRIPS requirement.

Second, a user must make reasonable efforts to obtain a license on reasonable commercial terms, except in the case of an emergency. By allowing a potential licensee to apply for a patent only after making a reasonable effort to negotiate a license, the proposal meets this requirement. While the proposal allows the patentee to waive this requirement, this provision does not conflict with the normal exploitation of the patent or prejudice the patent owner, because the patentee is still paid adequate remuneration, but with lower transaction costs. Finally, by allowing physicians to use the procedure without permission in the case of an emergency, the proposal addresses the realities of medical practice.

Third, “the scope and duration of such use [must] be limited to the purpose for which it was authorized.” The proposed compulsory licensing regime allows the board to grant a license for use on a class of patients who meet certain criteria. Thus, the license is restricted to use on patients who will benefit from the procedure, meeting the requirements of Article 31(c).

164. See id. art. 31. This Note does not describe in detail sections (d), (e), (f), (i), or (j), as the language of the proposal on its face meets these requirements.
165. Id. art. 31(a).
166. GERVAIS, supra note 108, at 165; PIRES DE CARVALHO, supra note 17, at 318.
167. PIRES DE CARVALHO, supra note 17, at 319.
168. See TRIPS Agreement, supra note 85, art. 31(b).
169. TRIPS Article 30 states that “[m]embers may provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties.” Id. art. 30.
170. Id. art. 31(c).
Fourth, the license must be “terminated if and when the circumstances which led to it cease to exist and are unlikely to recur.”171 This termination decision may consider the interests of the licensee.172 The compulsory licensing regime permits licenses for only a class of patients who will benefit from the procedures because they meet certain criteria. When no patient meets the specified criteria, the license ceases to exist. However, if patients continue to require the procedure, the license will continue. Although this approach results in a potentially indefinite license, TRIPS does not require the right to be limited in time.173 Instead, it must only be limited to the extent that circumstances require.174 Thus, the proposal is consistent with TRIPS Article 31(g).

Fifth, and perhaps most important, is the requirement that “the right holder . . . be paid adequate remuneration in the circumstances of each case, taking into account the economic value of the authorization.”175 This remuneration should be approximately what a license would cost if the patent owner were to grant it.176 This provision is the most evident reason that the royalty-free license created by § 287(c) cannot pass muster as a compulsory license under TRIPS.177 In contrast, the compulsory licensing approach requires the board to determine an appropriate licensing fee. Thus, it provides remuneration and is consistent with TRIPS.

3. Effects on the Incentive to Innovate

The primary concern with eliminating medical procedure patents is that private investors will refuse to invest in non-patentable procedures.178 Compulsory licensing addresses this concern by providing patentees with royalties at fair market value. While compulsory licensing with minimal compensation may have deleterious effects on innovation, providing royalties

171. Id. art. 31(g).
172. See id. (providing that liability is “subject to adequate protection of the legitimate interests of the persons so authorized”).
173. See id. (requiring termination only “if and when” it is no longer necessary, not when it is no longer necessary (emphasis added)).
174. See id.
175. Id. art. 31(h).
177. See Ho, supra note 9, at 669.
at fair market value provides adequate incentives.\textsuperscript{179} Although patentees will not get the monopoly benefit that they could get by refusing licenses, this result is justified by the public benefit of wide access to procedures.\textsuperscript{180} Since the purpose of patent law is not individual reward,\textsuperscript{181} “[t]he essential needs of the society as a whole may outweigh the exclusive rights of an individual patentee.”\textsuperscript{182} As with individual licenses, investors in this system will recoup their investments through royalties. Thus, this system provides the necessary incentive that patent law strives to maintain.

4. Financial Costs of Licensing

Opponents claim that licenses will raise the cost of health care, because the licensing fees will be passed on to the patients.\textsuperscript{183} However, as described in Part III.A, the cost to patients is far greater if the procedure had never been developed or freely shared in the first place. Under a compulsory licensing regime, patentees will not be able to abuse patents by refusing licenses or by demanding exorbitant fees. Instead, the board will determine a reasonable royalty to encourage innovation without placing unreasonable costs on the public. Thus, a compulsory licensing scheme ensures that procedures will be developed and shared while preventing unreasonable excess costs.

5. Transaction Costs and the Chilling Effects of Potential Litigation

Some commentators are concerned that healthcare costs will increase because doctors will need to research patents to avoid infringement.\textsuperscript{184} While this compulsory licensing regime requires a patentee to take reasonable steps to negotiate an in-

\textsuperscript{179} See Vastano Vaughan, supra note 132, at 104.
\textsuperscript{180} Cf. id. at 101 (“U.S. Congress balanced human need for access to medical procedures against the potential damper on innovation and concluded that human need was paramount.”).
\textsuperscript{181} See PIRES DE CARVALHO, supra note 17, at 2–6; Burch, supra note 18, at 1148.
\textsuperscript{183} See Miller, supra note 59, at 445–46; Meier, supra note 1, at 266–67.
\textsuperscript{184} See, e.g., AMA REPORT, supra note 22, at 3 (“[P]hysicians face a substantial legal risk every time they decide to introduce a new procedure or a modification of an existing procedure . . . . because use of a patented procedure without [a license] constitutes unlawful infringement.”).
dividual license, as required by TRIPS, the patentee may waive this requirement to decrease transaction costs. Patentees therefore have an incentive to waive this requirement so they will receive the same remuneration without the expense of negotiating with multiple individual licensees. Thus, universal licenses will cover most procedures. The patentees will also have an incentive to inform all doctors and healthcare entities about the procedure and universal license. If patentees teach more doctors about the procedure, they gain potential licensees. This approach will reduce the onus on physicians to research patented procedures.

Even in the rare case that a patentee does not submit her patent for a universal license, incentives for innovation justify the small risk of litigation. Although the AMA expressed concern over litigation, the "economic realities of modern American patent infringement litigation do not suggest that a wave of medical procedure patent litigation is about to sweep over the country." The risk of litigation from unintentional infringement is relatively small, because the people most likely to enforce their patents are those attempting to recoup significant investments. It is also unlikely that a court will award an injunction if ethical concerns suggest that the patented procedure should be available to the public. Thus, the incentives to in-

185. See TRIPS Agreement, supra note 85, art. 31(b).
186. Noonan, supra note 2, at 661.
187. Cf. 142 CONG. REC. S11,845 (daily ed. Sept. 30, 1996) (letter from Sen. Hatch) ("Historically, surgical procedures are not patented. When they are, it is usually because it is required as part of a business plan to attract the necessary capital for research and development.").
188. The U.S. Supreme Court recently held that traditional principles of equity are applicable in intellectual property disputes. See Ebay Inc. v. Mercexchange, 126 S. Ct. 1837, 1839 (2006). In doing so, the Court rejected the rule that a court will award permanent injunction in patent disputes upon a showing of infringement and validity. See id. at 1841. Thus, in order to receive a permanent injunction:

A plaintiff must demonstrate: (1) that it has suffered irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.

Id. at 1839. If withholding a patented procedure from the public is unethical, the public interest would be disserved by a permanent injunction, so this four-factor test will not be satisfied.
novate that patents provide justify these slight risks, which are required by TRIPS.\textsuperscript{189}

CONCLUSION

In its implementation of 35 U.S.C. § 287(c), Congress failed to address compliance with TRIPS. This omission resulted in a TRIPS violation with a potentially huge impact for the United States. Trading partners could use the United States as an example to justify other exceptions to patent enforcement, creating problems for intellectual property enforcement abroad. However, repealing the statute creates serious ethical problems. Alternatively, excluding medical procedures from patentability will not provide the necessary incentive to innovate in an increasingly expensive field. A compulsory licensing scheme addresses the ethical concerns while providing an incentive to innovate and remaining consistent with TRIPS. Ensuring that the United States is in full compliance with TRIPS will set an example to its trading partners, encouraging them to do the same. This approach strengthens the ability of the United States to enforce intellectual property rights abroad at a time when patenting those rights is of the utmost importance for United States companies and legislators.

\textsuperscript{189} See TRIPS Agreement, \textit{supra} note 85, art. 31(b) (requiring an attempt to individually negotiate a license).