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Rabbi Bleich's most recent book is an expanded edition of his *Bircas haChammah*.

Survey of Recent Halakhic Periodical Literature

BLOOD-SUGAR TESTS

I. THE SHABBAT PROBLEM

Drawing blood on *Shabbat* is ordinarily forbidden. According to Rashi, *Shabbat* 107a, and most other early-day authorities the prohibition is classified as a form of “slaughter,” one of the thirty-nine paradigmatic categories of labor prohibited on the Sabbath. Scripture declares, “for the blood is the life (*nefesh*)” (Deuteronomy 12:23), and hence removal of any quantity of blood is, halakhically speaking, tantamount to extinguishing a measure of “life.” According to Rambam, *Hilkhos Shabbat* 8:7, drawing blood is categorized as a derivative form of “threshing,” another of the prohibited categories of labor. Threshing involves extracting a kernel from its husk. Removal of blood, according to Rambam, is similar in that it involves expressing blood from the tissues in which it is imbedded.

Accordingly, drawing blood on *Shabbat* is sanctioned only if necessary for the treatment of someone suffering, or possibly suffering, from a life-threatening illness. Untreated or insufficiently treated diabetes is certainly an illness of that nature. Crucial in the treatment of diabetics is regulation of blood sugar levels. Since a diabetic's body either does not produce insulin, as in Type I diabetes, or cannot process the insulin that is produced, as is the case in Type II diabetes, the diabetic's blood sugar levels are likely to fluctuate much more widely than those of a healthy person. Current medical practice calls for taking blood samples periodically during the course of the day, particularly before meals, in order to titrate the amount of insulin or other medication required to achieve optimum blood sugar levels. Patients are trained to draw small quantities of blood and to perform a simple blood analysis themselves.

Diabetics whose insulin is insufficient for their caloric intake are at risk for developing life-threatening effects of hyperglycemia, including diabetic coma. Those whose dose of insulin is too high for the quantity of calories they have consumed are in danger of potentially life-threatening hypoglycemia that can result in insulin shock. Indeed, the halakhic discussions of glucose testing on *Shabbat* focus upon the immediate dangers. However, from the halakhic perspective, the danger must be defined far more broadly.

It is certainly true that lack of precision in determining dosages, particularly over a short period of time, poses no imminent danger to the patient. Deleterious effects of minor increases of blood sugar are unlikely to become manifest until after the passage of time. However, the nature of diabetes is such that, barring a supervening illness or accident, the diabetic's longevity anticipation will be shortened as a result of complications of that disease. The effects of higher than normal blood sugar are cumulative. Medical science has not established a threshold of safety for fluctuation of blood sugar or a time span within which such fluctuation is innocuous. Accordingly, it seems to this writer that any act designed to achieve an optimal blood sugar level for even a minimal period of time is in the category of possible *pikuah nefesh* and hence is not only permitted but is mandatory on *Shabbat* as well as on weekdays.

In practical terms, the result is that a diabetic is required to perform the necessary blood test as often as recommended by his or her physician. Of course, a rabbinic authority knowledgeable in the technical aspects of the testing procedure should be consulted for advice with regard to minimizing the nature of the Sabbath infractions involved.¹ The sole remaining halakhic issue is whether, in drawing blood, the patient may extract only the minimum quantity of blood necessary for analysis or whether the amount of blood removed in the performance of a single act is irrelevant. There are multiple self-use kits available for this purpose. Some draw more blood than others. Assuming, as is likely the case, that all are equally efficacious, is the patient obligated to use a device, or method, that results in removal of the least possible quantity of blood? That issue is addressed in a number of contributions to *Assia*, no. 73-74, Nisan 5764 (vol. 19, no. 1-2).

The most commonly used method of obtaining a blood sample is by means of a finger prick. The blood that is released is placed on a testing strip. The strip is then placed into a processing device that measures and announces the blood sugar level.

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Since receiving F.D.A. approval late in the year 2000, a device has been available that accomplishes lancing, blood collection and glucose testing with a single press of a button. The device employs a vacuum mechanism that holds the skin in place while an integrated apparatus lances the skin and automatically transfers the blood to a bio-sensor strip that tests the blood and records the result. This device has the advantage of causing significantly less pain than traditional finger-stick testing and also requires only a minute quantity of blood. A survey of various self-testing devices of this material presently marketed in the United States indicates that the amount of blood drawn varies between .6 microliters and four microliters. Standard type lances are much cheaper but draw more blood than necessary.

In his article in *Assia*, Rabbi Menasheh Klein astutely draws attention to the fact that an issue exists with regard to the proper procedure to be followed on weekdays as well as on *Shabbat*. Drawing blood constitutes “wounding” and is forbidden other than for therapeutic purposes. The Gemara, *Sanhedrin* 84b, indicates that, even in a medical context, “wounding” beyond that which is therapeutically necessary constitutes a transgression. Accordingly, Rabbi Klein asserts that drawing more blood than is necessary for diagnostic testing is forbidden.²

R. Meir Simchah ha-Kohen of Dvinsk, *Or Sameah, Hilkhot Shabbat* 18:1, establishes a fundamental point with regard to Sabbath regulations. The general rule is that even when an otherwise forbidden act is sanctioned, e.g., for purposes of saving a life, it is forbidden to add to the quantity of a substance that is the subject of that act even if no additional physical act is required. Thus, on the Sabbath, if a limited quantity of soup is required for a patient, it is not permitted to add additional water to the pot even before the pot is placed on the stove. This is so despite the fact that only a single act of “cooking” is required regardless of whether the pot contains a large or small quantity of water. The concern is that, if adding food *before* the pot is placed on the fire is permitted, the cook may err in adding additional food in the pot *after* the pot has been placed on the fire. Placing a second quantity of food in a pot already on the fire constitutes an additional discrete act and, since not necessary for the purpose of preserving life, constitutes a biblical infraction. Placing more food in the pot than is required for the patient constitutes *ribbuy be-shi'urin* i.e., increasing the quantity of the substance upon which the forbidden act is performed.

Among the various categories of “labor” prohibited on *Shabbat*, many forms of “labor” result in culpability at the hands of the *bet din*

only if the prohibited act is performed upon a minimum quantity of a substance. Accordingly, although cooking even a minimum quantity of a foodstuff is proscribed, there is no culpability unless a minimum quantity equal in weight to a *grogeret*, or dried fig, is cooked. According to *Tosafot*, *Minahot* 64a, s.v. *shetayim*, and Rashba, *Hullin* 15b, such acts are prohibited only by virtue of rabbinic decree. According to Rabbenu Nissim, *Beizah* 17a, the prohibition against *ribbuy be-shi'urin* is biblical in nature.

With regard to some forbidden forms of activity no minimum quantity or size is prescribed. Accordingly, “slaughter” or killing a live creature is cause for punishment by the *bet din* even if the creature is a mere insect. *Or Sameah* asserts that there is no concept of *ribbuy be-shi'urin*, i.e., forbidden enhancement of quantity, with regard to forbidden forms of labor that require no minimum quantity or size for culpability. Accordingly, he asserts that when an animal must be slaughtered on behalf of a patient on *Shabbat* and two animals are available, one large and one small, there is no reason to slaughter the smaller, leaner animal rather than the larger.

Or Sameah's position is in contradiction to the earlier published view of R. Joseph Babad, *Minhat Hinnukh*, no. 32, *Mosekh ha-Shabbat* 39:2. When two animals are available, *Minhat Hinnukh* regards the slaughter of an animal larger than necessary for the needs of the patient to be rabbinically forbidden even according to Rashba.³ A similar rule exists with regard to cutting the branch of a tree bearing fruit when fruit is necessary for a patient on *Shabbat*. Plucking fruit, cutting a branch or otherwise severing vegetative matter from the ground to which it is attached constitutes a category of labor that is forbidden on *Shabbat*. In a situation in which a patient is in need of no more than two fruits and two branches are available, one bearing two fruits and the second three fruits, only the branch bearing two fruits may be severed despite the fact that the physical “labor” involved in severing the branch bearing a larger number of fruits is absolutely identical to the “labor” involved in severing the branch bearing a smaller quantity of fruit. The reason, asserts *Kesef Mishneh*, *Hilkhos Shabbat* 2:8, is that *ribbuy be-shi'urin* is forbidden. In effect, each fruit is discrete and each is the subject of the prohibition against plucking; hence more fruit than needed may not be “plucked” even by means of severing the branch through a single act.

R. Zevi Pesach Frank, *Teshuvot Har Zevi*, *Orah Hayyim*, no. 177, cites R. Meir Auerbach, *Imrei Binah*, *Dinei Shabbat*, no. 17, in distin-

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guishing between severing a branch bearing two fruits rather than a branch bearing three fruits and slaughtering a heavier rather than a lighter animal and asserts that the rule applicable to the branches does not apply to the slaughter of an animal. Since an animal is an integral whole, argues *Har Zevi*, slaughter is always in the nature of a single act performed upon a single animal having the effect of extinguishing a single life regardless of the size of the animal.⁴ Consequently, *Har Zevi* permits the slaughter of the larger animal.⁵ *Har Zevi* similarly suggests that lighting a lamp containing more fuel than is necessary to satisfy the needs of the patient may also be permissible. The situation involving the lamp is more complex and involves additional considerations that are not relevant to this discussion.⁶

Applying that controversy to the issue of drawing a greater than necessary quantity of blood on *Shabbat*, Rabbi Israel Rosen, writing in the same issue of *Assia*, concludes that, although according to *Minhat Hinnhukh* the permissibility of the procedure is questionable, nevertheless, according to *Or Sameah* and *Har Zevi*, there is no reason to employ a procedure that would express a smaller quantity of blood. Rabbi Klein, however, dismisses that conclusion. Rabbi Klein understands *Or Sameah's* thesis as applicable only to matters such as slaughter in which there is only a single life to be taken regardless of the size of the animal. "Wounding," he argues, even though it is a sub-category of "slaughter,"⁷ can be performed repeatedly upon the same animal and hence, he argues, each drop of blood expressed represents a discrete transgression.

Rabbi Klein's argument seems to be flawed in the sense that it must have been impliedly rejected by both *Or Sameah* and *Har Zevi*. Every act of slaughter also involves blood-letting. The blood of a large animal is certainly more copious than that of a small animal. If so, even though each animal, large or small, has but a single life, slaughter of the larger animal should be forbidden because, *ipso facto*, it also involves "wounding" of a quantitatively greater nature, i.e., the extraction of a larger quantity of blood, each drop of which constitutes a separate infraction. In failing to reach that conclusion *Or Sameah* and *Har Zevi* must have reasoned that since "wounding" is a sub-category of "slaughter" there can be no *ribbui be-shi'urin* with regard to "wounding" just as there is no *ribbui be-shi'urin* with regard to "slaughter."

Putting that matter aside, *Or Sameah's* thesis is advanced only with regard to forms of labor that demand no minimum quantity for purposes of liability. If, as Rambam maintains, "wounding" is prohibited as a

form of “threshing,”⁸ causing blood to flow in the course of slaughter should also be a form of “threshing.” Since culpability for “threshing” requires a minimum quantity of a *grogeret* it should follow that *ribbuy be-shi’urin* with regard to “threshing” is prohibited⁹ with the result that slaughter of a large animal on behalf of a sick person should not be warranted when slaughter of a smaller animal would suffice.¹⁰

Rabbi Rosen does, however, raise an additional point that is both empirical and intriguing. The amount of blood expressed in utilization of any of the available methods is much lower than the minimum quantity of *grogeret*. Even assuming that an act involving a *hazi shi’ur*, i.e., a quantity insufficient to generate culpability, is biblically proscribed, the issue that seems heretofore not to have been addressed is whether there is a prohibition of *ribbuy be-shi’urin* when, in aggregate, the total quantity will remain below the *shi’ur*, or threshold, that gives rise to culpability.

The issue raised by Rabbi Rosen is germane only with regard to the Sabbath prohibition associated with drawing blood. It is not at all relevant with regard to the issue of “wounding” since punishment for violation of that prohibition is not contingent upon causing a fixed minimum amount of bleeding. In a brief communication, published in the same issue of *Asia*, R. Joshua Neuwirth, author of *Shemirat Shabbat ke-Hilkhatah*, dismisses the question of *ribbuy be-shi’urin*. He reasons that in applying a lance, the patient is, in effect, performing an act comparable to opening a faucet. In the latter case, other than the first gush of water, the resultant flow is automatic and only an indirect result of the act of turning on the spigot. The same is the case, asserts Rabbi Neuwirth, with regard to the flow of blood following puncture of the skin: pricking the skin allows pent up blood to flow of its own accord.¹¹ Rabbi Rosen responds that, in point of fact, blood (often) does not flow of its own but requires application of pressure to express the required quantity of blood; hence, the issue of *ribbuy be-shi’urin* is germane.

Interesting, but apparently ignored, is a point that arises from Rabbi Neuwirth’s analogy to opening a faucet. In that case, the initial gush of water as a result of built-up pressure is deemed a human act for all purposes of Halakhah. The ongoing flow is regarded to be in the nature of *gerama*, i.e., an act caused only indirectly. In the absence of proximate cause, such indirect acts are generally proscribed by rabbinic decree in all situations in which a direct act is biblically forbidden. The issue not addressed is whether there is a prohibition of *ribbuy be-shi’urin* with regard to acts in the nature of *gerama*.

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II. UNNECESSARY “WOUNDING”

As previously noted, Rabbi Klein is adamant in his view that drawing more blood than necessary for diagnostic purposes is forbidden and accordingly draws attention to the common medical practice of filling relatively large vials with blood despite the fact that only a fraction of the quantity drawn is actually needed for blood tests.¹² The practice, he emphasizes, is forbidden on weekdays as well as on *Shabbat*. As noted earlier, Rabbi Neuwirth clearly disagrees because, in his opinion, the additional blood flows of its own accord. Although, again as noted, that is frequently not the case with the minute quantity of capillary blood obtained by means of a needle prick or by lancing, it is certainly true with regard to venous blood drawn for more extensive diagnostic purposes. Again, as stated earlier, it seems to this writer that causing flow of blood in that manner is in the nature of *gerama* that is rabbinically forbidden. This writer is unaware of any source that specifically addresses the issue of whether there is a prohibition of *ribbuy be-shi'urin* with regard to an act in the nature of a *gerama*. Even if *ribbuy be-shi'urin* represented a rabbinic rather than a biblical prohibition, such an act should nevertheless be prohibited even when performed indirectly. However, it would seem to be the case that it is permissible to direct a non-Jew to perform such an act. An act that would be permissible but for the cumulative effect of three separate rabbinic prohibitions remains permissible. In this case, the act would be forbidden only because of a conjunction of three distinct rabbinic prohibitions: 1) *gerama* is rabbinically forbidden; 2) *ribbuy be-shi'urin* is rabbinically forbidden; and 3) instructing a non-Jew to perform a proscribed act is rabbinically forbidden. Hence, since rabbinic legislation does not forbid acts involving a configuration of three rabbinic decrees,¹³ the act is not forbidden.

However, the prohibition against drawing excess blood on a weekday is not as clear-cut as it might seem. R. Moshe Feinstein, *Iggerot Mosheh*, *Hoshen Mishpat*, I, no. 103 and *Orah Hayyim*, IV, no. 102, permits donations of blood to a blood bank on various grounds. *Inter alia*, he argues, the Sages regarded blood-letting not only as a therapy for various maladies but also regarded it as having prophylactic value.¹⁴ Accordingly, *Iggerot Mosheh* concludes that blood donations are permitted because of their medical benefit to the donor. According to *Iggerot Mosheh*, filling a larger than necessary vial of blood when drawing blood for diagnostic purposes should be regarded simply as a form of blood-letting permitted by the Sages because of its potential health benefit.

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Rabbi Klein, consistent with his view regarding drawing excess blood for diagnostic purposes, regards donation to blood banks as prohibited although, presumably, he, too, would permit such donations in a situation of a *holeh le-faneinu*, i.e., an imminent danger as that concept is expansively defined by Halakhah.¹⁵

Permissibility of drawing more blood than necessary would thus be subject to the dispute between Rabbi Klein and *Iggerot Mosheh*. Assuming that drawing more blood than is necessary constitutes illicit wounding, there is certainly cause for a Jewish physician, nurse or phlebotomist to be concerned with drawing blood in excess of the necessary quantity. However, it seems to this writer, that a Jewish patient need not protest if a non-Jewish health-care practitioner does so. The excess blood is neither drawn at the behest of the patient nor for his benefit. The benefit, if any, is convenience for the laboratory and for the person drawing the blood who wishes to avoid difficulties with his or her employer. Although the patient must cooperate and provide assistance in placement of the needle, there is no *mesaye'ah* or “assisting” in drawing the quantity that is in excess of medical need. At that point, the patient merely holds his or her hand rigid and provides no further active assistance.

USE OF VIAGRA ON *SHABBAT*

The Sages prohibited many acts on *Shabbat* despite the fact that, in and of themselves, those acts involve no aspect of forbidden labor and are in no way inimical to the Sabbath spirit. They feared that engaging in such acts might, through excitement, confusion, overpowering desire etc., lead a person to desecrate the Sabbath, whether inadvertently or knowingly, by performing a biblically proscribed act of labor. Thus, for example, the Sages severely limited the type and quantity of possessions that may be rescued from a burning building on *Shabbat* by removing them into a courtyard. Their concern was that, once rescue of property is countenanced, the prospect of loss of a significant portion of a person's fortune might engender emotional confusion that would prompt him to transport valuables into a public thoroughfare as well.

The prohibition against taking medication or engaging in therapeutic activity on *Shabbat* or *Yom Tov* is among rabbinic prohibitions of

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that nature. According to Rif, *Shabbat* 53b, and Rosh, *Shabbat* 5:3, the Sages feared that a person in pain or discomfort, if permitted to take medicine, might be led to pulverize the components used in compounding such medications. *Hayyei Adam* 69:1 explains that the prohibition is rooted in a concern that, if any type of medical treatment is permitted, an observer may infer that Sabbath restrictions, including the biblical prohibition involved in pulverizing medicaments, are suspended for all medical purposes even in the absence of danger to life.

Since even biblical restrictions are suspended in situations involving danger to life, no restriction against availing oneself of medication on *Shabbat* exists with regard to a patient afflicted with a potentially life-threatening illness or even of a malady that might cause permanent impairment. Nor did the Sages see fit to restrict medication or treatment of an even temporarily bedridden or incapacitated person. Essentially, the restriction is limited to individuals suffering mild discomfort or pain that is not incapacitating in nature.

Contemporary reality makes it difficult to appreciate the concern that prompted a rabbinic enactment limiting therapeutic measures on *Shabbat*. Although, on occasion, a pill may be crushed and mixed with applesauce or the like, in our day, virtually no consumer of pharmaceuticals has ever compounded a medication and consequently there is scant reason to fear that a patient may be prompted to crush medicinal ingredients. Even pharmacists are no longer apothecaries. Pharmacists dispense medications that have been produced in bulk quantities by pharmaceutical companies. As a result, neither the patient, the caregiver nor the health-care professional in personal contact with the patient has occasion inappropriately to crush or pulverize medicines on *Shabbat*. The concern prompting promulgation of this rabbinic decree has largely lapsed.¹⁶ Nevertheless, the decree remains in force and is fully binding until rescinded by a court “larger in number and wisdom” than the court that enacted the decree originally.

Sildenafil, marketed by Pfizer Pharmaceuticals under the name Viagra, is the first Food and Drug Administration approved oral pill for treatment of impotence. Use of Viagra on *Shabbat* is addressed by Rabbi Joel Catane in the earlier cited issue of *Assia*, Nisan 5764. Rabbi Catane points to a series of considerations that serve to render use of erectile dysfunction remedies permissible on *Shabbat*. Those considerations merit careful examination.

Viagra does not cause penile erections directly. Rather, Viagra acts by enhancing the effect of nitric oxide that is normally released in

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response to sexual stimulation. Viagra removes impediments to the smooth muscle relaxant effects of nitric oxide which, in turn, allows increased blood flow into the areas necessary to cause and sustain an erection.¹⁷ Sildenafil is also marketed under the brand name Revatio. Tadalafil, marketed as Cialis, has much the same effect and is accompanied by the same side effects. An erection is reversed when a chemical known as phosphodiesterase type 5 (PDE5) breaks down the chemicals that caused the muscles to relax in order to accommodate an increased flow of blood. Cialis operates by flushing PDE5 and hence prevents contraction of the muscle tissue with the result that blood remains in the tissue a longer period of time and prolongs the erection. A third FDA approved drug, Levitra, is similar to Cialis.

On first analysis it might appear that erectile dysfunction remedies such as Viagra, Cialis and Levitra should not be categorized as medications within the ambit of the edict prohibiting use of medications on *Shabbat* by virtue of the fact that the person taking the medication suffers from no illness. The problem confronting a person seeking to avail himself of one of these pharmaceutical products is that he either cannot achieve an erection or cannot sustain an erection long enough to engage in intercourse. Yet, as codified by *Mishnah Berurah* 328:120, medications are forbidden, not only when they are designed to alleviate an underlying condition, but also when they are designed *le-hazek ha-mezeq*, i.e., to “strengthen,” enhance or promote ongoing “pharmacological balance” or good health. Of course, even ordinary food is designed to achieve that goal. The rule of thumb is that whatever constitutes a *ma’akhal bari*, or “food of a healthy person,” i.e., a substance that would be consumed by a normal person for its nutritional value in the absence of a particular health concern, is permitted whereas a substance that would not ordinarily be consumed by a healthy person is forbidden. A food that would be eaten by a healthy person may be eaten by a sickly individual even though the latter’s purpose in consuming such food is therapeutic in nature.¹⁸ Understood in this manner, use of erectile dysfunction remedies is certainly problematic: young, virile men have no need for a pharmaceutical stimulant. The medication is designed to increase blood flow to the penis, a goal which, even if it is not to be characterized as the cure of a malady, is certainly in the nature of a measure intended *le-hazek ha-mezeq*, i.e., to restore physical prowess and performance. Thus, even if Viagra or the like is not a “medicine,” that serves to cure a physiological disorder, it is nevertheless not a *ma’akhal bari* and hence may well be prohibited on *Shabbat*.

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There may, however, be other grounds that would serve to exclude use of erectile dysfunction medications from the ambit of the prohibition against use of medicine on *Shabbat*. There are a host of authorities who rule that a medicine that must be taken over a period of several days may be utilized on *Shabbat* as well. The earliest authority to permit such medications is R. Shlomoh Kluger, *Sefer ha-Hayyim* 328:1,¹⁹ who states that this is a commonly known leniency (*margela be-puma de-insha*). R. Joshua Neuwirth cites Rambam's rulings, *Hilkhot Shabbat* 21:22 and 22:7, to the effect that one who drinks a potion known as *haltit* for medicinal purposes several days before *Shabbat* may continue to do so on *Shabbat*. Indeed, as reported by R. Abraham ha-Levi Hurwitz, *Orhot Rabbenu ha-Kehillat Ya'akov*, I, no. 214, pp.155f., *Hazon Ish* goes beyond the position of other authorities in ruling that, in such circumstances, even the initial dose may be taken on *Shabbat*.²⁰ In *Hilkhot Shabbat* 22:7 Rambam adds the qualifying phrase "so that he not become ill if he interrupts drinking." Apparently, the reason for this exclusion from the prohibition is that the Sages sought only to forbid use of medication by a person suffering mild pain or discomfort but did not seek to include in their edict those who are ill, even if not severely so. Requirement of medication over a period of days was probably assessed as being an indication of illness rather than mere discomfort (*meibush*).²¹

Ingestion of erectile dysfunction medication is not necessary on a daily or periodic basis. Nevertheless, Rabbi Catane suggests that the need for such medication in conjunction with every occasion of coitus is similarly an indication of sickness rather than mere discomfort. That argument is not persuasive for two reasons: 1) Ramban's phraseology is *Hilkhot Shabbat* 22:7 seems to indicate that the crucial factor is that interruption of the medication on *Shabbat* would frustrate the benefit of weekday administration of the medicine by causing the earlier illness to express itself anew. That explication of this rule reflects the incident reported by the Gemara, *Shabbat* 140a, which serves at the basis of the ruling.²² As recorded in that discussion, R. Hiyya ben Avin was permitted to continue taking medication on *Shabbat* with the explanation that failure on his part to do so would make him ill. Erectile dysfunction medication does not "cure" an underlying malady and hence its interruption does not negate the benefit of earlier doses. 2) The leniency formulated by *Sefer ha-Hayyim* does not seem to apply to a person who suffers from (mild) headaches intermittently. Typically, such a person takes an aspirin when he experiences a headache but does not do so prophylactically or to prevent a recurrence. Such an individual would not

be permitted to take aspirin on *Shabbat* because each headache is a new episode.²³ Viagra and other erectile dysfunction medications are similar in that they are used to cause or to sustain an erection whenever such physical prowess is desired. That effect is certainly in the nature of *le-hazek ha-mezeg*, i.e., achievement of more optimal physical function. A patient experiencing sexual dysfunction does not become sexually rejuvenated as a result of taking the medication over a period of time, which might render taking the medication on *Shabbat* permissible. Rather, the medication is used on an *ad hoc* basis to facilitate intercourse just as aspirin is used to alleviate an intermittent headache.

Rabbi Catane finds other grounds to permit Viagra and the like in the rulings of *Ziz Eli'ezer*, XIV, no. 50, sec. 5, regarding tranquilizers and *Teshuvot Be'er Moshéh*, I, no. 33, sec. 19, and VI, no. 39, with regard to stimulants used to prevent drowsiness. In both cases there is neither an underlying physical malady nor is the drug designed to "strengthen the constitution." As recorded by *Shulhan Arukh, Orach Hayyim* 328:37, a person suffering from no illness may avail himself on *Shabbat* of a substance not normally consumed by a healthy person. Rabbi Catane argues that Viagra should similarly be permitted since it does not function as a cure or as a means of "strengthening the constitution." However, the comparison does not seem apt since the purpose of an erectile dysfunction remedy is clearly to "strengthen the constitution," i.e., to sustain penile erection in a person otherwise incapable of doing so. It is of interest to note that Rabbi Catane cites a personal communication to him from Rabbi Neuwirth in which the latter apparently takes issue with the permissive rulings of *Ziz Eli'ezer* and *Be'er Moshéh* regarding tranquilizers and stimulants. It should also be noted that in sec. 13 of the summary appended to *Ziz Eli'ezer*, VIII, no. 15, Rabbi Waldenberg without explanation forbids use of stimulants to prevent sleep.

A much stronger argument cited by Rabbi Catane was earlier advanced by Dr. Abraham S. Abraham with regard to penile injections on *Shabbat* prior to intercourse. Although painful and cumbersome, the purpose of such injections is the same as that of Viagra, *viz.*, to cause the blood vessels to become engorged in order to make erection possible. Dr. Abraham's argument permitting penile injections is based upon another exclusion from the prohibition against medical treatment on *Shabbat*. Even in situations in which there is no threat to life, treatment is permissible if failure to treat will result in loss or dysfunction of an organ or limb (*sakkanat ever*). *Kezot ha-Hoshen, Baddei ha-Shulhan*

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138:18, and *Shemirat Shabbat be-Hilkhatab* 33:1, in a gloss appended to sec. 5, rule that this exclusion applies even if foregoing treatment will result in only partial dysfunction of the organ, e.g., failure to set a fracture will not render the person lame but will result in a limp that will compromise function of the foot. Thus, Rabbi Neuwirth is cited in *Nishmat Avraham*, IV, introduction to *Orah Hayyim* 328, sec. 4, as permitting fertility treatments on *Shabbat* on the grounds that inability to conceive represents dysfunction of the reproductive organs and hence constitutes *sakkanaat ever*.²⁴

However, at least in cases in which the patient is not completely impotent, the application of this thesis to penile injections or to ingestion of Viagra and the like, is not as strong as it might appear. The terminology employed by the codifiers of this rule is “*sakkanaat ever*” or *danger* to an organ. The concern reflected in this exclusion seems to be the threat of permanent loss or dysfunction resulting from non-treatment. Thus loss of a foot, lameness and inability to bear children each represents an irreversible loss. Reproductive organs are designed for procreation. Although fertility treatment does not restore those organs to ongoing normalcy, such treatment serves to bring the *raison d'être* of those organs to actualization by making pregnancy possible.

However, there is no evidence indicating that transient dysfunction constitutes *sakkanaat ever* or that enhancement of the function of an organ is permitted. Thus, for example, medical treatment for a sprain that results only in temporary lameness does not seem to be encompassed within this category. Similarly, it is not at all apparent that a person rendered lame by a sprain but who, hypothetically, can walk for a brief period of time after being injected with steroids, might avail himself of such treatment on *Shabbat*. No “danger” to the limb is forestalled by such treatment. Temporary dysfunction of an organ certainly does not constitute *sakkanaat ever*; hence, restoration of such function does not seem to constitute a remedy for *sakkanaat ever*. A medication that would entirely reverse impotence would certainly be permissible on *Shabbat*. However, Viagra does not do so; it only makes sustained erection possible for a limited period of time. Nor does failure to use Viagra for any period of time compromise its future efficacy as a treatment for impotence.

The strongest argument advanced by Rabbi Catane in support of the permissibility of use of Viagra and similar medications on *Shabbat* is based upon a responsum of R. Yitzchak Ya'akov Weisz, *Teshuvot Minhat Yizhak*, I, no. 108. *Minhat Yizhak* permitted a husband to take medication before and after intercourse “so that he not be harmed” by inter-

course. Presumably, in the case brought to his attention, nitroglycerin was prescribed for a patient suffering from angina in order to dilate the cardiac vessels so that they might accommodate without danger the more rapid blood flow that results from exertion during intercourse.

Minhat Yizhak's ruling is based on the principle that a non-Jew may be instructed to perform a rabbinically forbidden act on *Shabbat* if such is necessary in order to fulfill a *mitzvah*. As recorded in *Shulhan Arukh, Orach Hayyim* 140:11, intercourse is not permitted in an illuminated room. On *Shabbat*, when a lamp cannot be extinguished, *Hayyei Adam, Hilkhote Shabbat* 29:4, rules that it is also forbidden to interpose a "wall" between the lamp and the couple in order to block the light. This is forbidden even though construction of a "temporary wall" is only rabbinically proscribed. Nevertheless, a non-Jew may be requested to put a temporary wall in place on the basis of the principle that it is permitted to instruct a non-Jew to perform a rabbinically proscribed act in order to facilitate fulfillment of a *mitzvah*, in this case, fulfillment of conjugal obligations. *Minhat Yizhak* cites *Teshuvot Radvaz*, III, no. 640, in demonstrating that availing oneself of medication on *Shabbat* is an infraction of lesser severity than commanding a non-Jew to perform a rabbinically proscribed act of labor. Hence, he argues, if ordering a non-Jew to perform such an act in order to fulfill a *mitzvah* is permitted, *a fortiori*, taking medication must also be permissible for the purpose of fulfilling a *mitzvah*. *Minhat Yizhak's* ruling is endorsed by *Ziz Eli'ezer*, VII, no. 15, chap 15, sec. 14, and is cited by *Nishmat Avraham*, I, *Orach Hayyim* 321:11, note 3. A similar ruling based on the same source was issued by *Be'er Mosheh*, I, no. 33, sec. 9 and reiterated in volume VI, no. 39 of the same work.

However, Rabbi Neuwirth, *Shemirat Shabbat ke-Hilkhatah*, 2nd edition (Jerusalem, 5739), I, 33:20, note 81, apparently regards any act performed by a person himself, including taking medications on *Shabbat*, as a more severe infraction than the infraction involved in directing a non-Jew to perform a forbidden act.²⁵ Nevertheless, on the basis of the clear rulings of *Minhat Yizhak*, *Ziz Eli'ezer* and *Be'er Mosheh*, and in light of the somewhat tentative nature of Rabbi Neuwirth's comment, the weight of opinion supports the conclusion that use of erectile dysfunction medications on *Shabbat* is permitted.

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NOTES

1. A symposium devoted to the proper methods to be employed in performing blood tests on *Shabbat* in order to minimize the severity of the infraction was published in the Tevet, 5763 issue of *Or Yisrael* (vol. 8, no. 2). That symposium also addresses the issue of whether intake of carbohydrates should be minimized in order to reduce the number of blood tests required during the course of the Sabbath.

R. Shalom Elyakim Berkowitz, *Or Yisra'el, ibid.*, p. 36, notes that many authorities maintain that rabbinic prohibitions are *hutrah*, i.e., entirely suspended, when permitted for a sick person. See R. Meir Arak, *Teshuvat Imrei Yosher*, I, no. 185; *Teshuvot Emunat Shmu'el*, no. 47, p. 47, s.v. *ve-hineh* and *ibid.*, appendix, *kelalim* 21:8; R. Yo'av Yehoshu'a Weingarten, *Teshuvot Helkat Yo'av, Orah Hayyim*, no. 14, s.v. *akb*; *Derekh ha-Melekh, Hilkhot Shabbat* 6:9, sec. 1; *Teshuvot Avnei Nezer, Orah Hayyim*, I, no. 118, sec. 5; and R. Eli'ezer David Grunwald, *Teshuvot Keren le-David*, no. 70, s.v. *me-attah*. See also *Teshuvot Hesed le-Avraham, Mahadura Tinyana, Orah Hayyim*, no. 67. Since blood should be drawn with a *shinuy*, i.e., in an “unusual” manner, thereby rendering the infraction rabbinic rather than biblical, the number of times blood must be drawn need not be minimized according to this view.
2. Rabbi Klein states that he had earlier expressed this view in his *Mal ve-lo Para* (Brooklyn, 5744). The reference is presumably to *netiv* 24 of that work in which Rabbi Klein demonstrates that, as is readily apparent from *Sandhedrin* 84b, removal of more tissue than necessary, or extending an incision more than medically necessary, constitutes illicit “wounding.” Rabbi Klein regards drawing additional blood in the same light.
3. *Minhat Hinnukh*'s position is also espoused R. Joseph Chaim ben Eliyahu, *Teshuvot Rav Pe'alim*, I, *Orah Hayyim*, no. 21; *Arukh ha-Shulhan, Orah Hayyim* 318:16; and *Kaf ha-Hayyim, Orah Hayyim* 328:87.
4. *Har Zevi* disputes and rejects the ruling of *Teshuvot Rav Pe'alim*, I, *Orah Hayyim*, no. 21, who asserts that even with regard to a single animal “the limbs are separate and stand separately” and therefore invokes the rule applicable to branches of a tree in forbidding the slaughter of the larger of the two animals.
5. This is also the position of R. Shlomoh Zalman Margulies, *Matteh Efrayim, Kezeh ha-Mattah* 618:14 and *addenda* and, as reported by R. Joshua Neuwirth, *Shemirat Shabbat ke-Hilkhatam*, 2nd edition (Jerusalem, 5739), I, 32:29, note 90, was also endorsed by R. Shlomoh Zalman Auerbach. See also R. Eli'ezer Waldenberg, *Ziz Eli'ezer*, VIII, no. 15, sec. 6.
6. Applying this principle, *Ziz Eli'ezer*, VIII, no. 15, sec. 6, permits a physician who must write a prescription for 10 pills, representing the dose to be administered on *Shabbat*, to write a prescription for 20 pills. His ruling is based upon the consideration that no additional letter or number need be written; the “labor” involved in writing a “2” is identical to that entailed in writing a “1.” *Ziz Eli'ezer* compares that situation to the slaughter of a larger animal rather than a smaller one.
7. See *Magen Avraham, Orah Hayyim*, 316:15.

8. Rambam's position is understood in this manner by *Lehem Mishneh*, *Hilkhot Shabbat* 8:9; *Minhat Hinnukh*, no. 32, *Mosekh ha-Shabbat* 5:3; and R. Meir Dan Plocki, *Hemdat Yisrael*, *Kuntres Ner Mizvah*, pp. 47b-48a.
9. Rashi, *Shabbat* 107a, cites an opinion to the effect that "wounding" constitutes a form of "dyeing," which also requires a minimum quantity for culpability.
10. Rabbi Rosen's comments in this regard are somewhat confusing. He seems to ignore the fact that *Or Sameah*'s thesis is limited to forms of labor having no minimum *shi'ur*.
11. See, however, *Magen Avraham*, *Orah Hayyim* 328:53, and R. Meir Auerbach, *Imrei Binah*, *Dinei Shabbat*, who maintains that use of a leech in blood-letting constitutes a direct act rather than *gerama*. Cf. R. Moshe Schick, *Teshuvot Maharam Shik*, *Orah Hayyim*, no. 115. Rabbi Berkowitz, *Or Yisra'el*, *ibid.*, p. 35, argues that, when a lance is utilized, the resultant flow of blood should be regarded in the same light as leeching. However, it may be the case that *Magen Avraham* maintains that it is only the blood drawn immediately by the bite of the leech that is the product of a direct act and hence only the first gush of blood following lancing would be regarded in that manner.
12. Dr. Jocelyn Hicks, "Excessive Blood Drawing for Laboratory Tests," *New England Journal of Medicine*, vol. 340, no. 21 (May 27, 1999), p. 1690, presents the results of a survey showing that community and university hospitals typically draw 2½ to 7 times the amount of blood as do children's hospitals for identical tests. Dr. Hicks theorizes that unnecessary quantities of blood are drawn because in years gone by when the practice was developed most instruments required large quantities of serum for analysis. Earlier, J. C. Dale and S. K. Pruett, "Phlebotomy: A Minimalist Approach," *Mayo Clinic Proceedings*, vol. 68, no. 3 (March, 1993), pp. 249 – 255, reported that a range of 2 to 102 times and a mean of 45 times the required volume required of diagnostic tests was obtained for a sample of 113 hospital patients.

The prohibition against "wounding" is not necessarily predicated upon concern for the health of a particular victim or patient. However, unnecessary drawing of more than minimal quantities of blood is not without risk. Phlebotomy is highly associated with changes in hemoglobin and hematocrit levels and can contribute to anemia. See Paaladinesh Thavendirathan, Akshay Bagai, Albert Ebidia *et al.*, "Do Blood Tests Cause Anemia in Hospitalized Patients: The Effect of Diagnostic Phlebotomy on Hemoglobin and Hematocrit Levels," *Journal of General Internal Medicine*, vol. 20, no. 6 (June, 2005), pp. 520-524. Although blood loss from laboratory testing is not likely to pose a problem for most patients, blood loss is greater in intensive care patients and after cardiovascular surgery. Other risk groups include low-birth weight newborns, patients with already existing anemia and the elderly. See Dirk Wisser, Klaus van Ackern, Ernst Knoll *et al.*, "Blood Loss from Laboratory Tests," *Clinical Chemistry*, vol. 49, no. 10 (October, 2003), pp. 1651-1655. Obviously, internal bleeding and dehydration are additional risk factors. The proposed remedy is simply to use smaller tubes for drawing blood. See Jeannette O. Andrews, "A QI (Quality Improvement) Project to Reduce Nosocomial Blood Loss," *Dimensions of Critical Care Nursing*, vol. 17, no. 2 (March-

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- April, 1998), pp. 92-99 and Terry Rudisill, "Smaller Tubes Reduce the Volume of Blood Drawn," *Critical Care Nurse*, vol. 22, no. 3 (June, 2002), pp. 96-95.
13. See *Pri Megadim*, introduction to *Orah Hayyim, Hanhagot ha-Sho'el ve-ha Nish'al* 1:74. See also R. Mordecai Brisk, *Teshuvot Maharam Brisk*, I, no. 23. That position seems to be reflected in the comments of R. Ezekiel Landau, *Dagul me-Revavah, Orah Hayyim, Eshel Avraham* 340:5, who advances that principle only tentatively. The principle is rejected by R. Henoah Pak, *Zikhron Yosef*, secs. 8 and 167.
 14. As early as the fifteenth century B.C.E., Hippocrates asserted that bloodletting, restored the harmony of the body's humors. There are reports of bloodletting by English monks in 674 C.E. Bloodletting reached the height of its popularity in Europe between 1825 and 1835. Venesection, or bloodletting, does serve to reduce hypertension but any benefit is transient. Modern medicine has come to recognize the value of "therapeutic phlebotomy" in the treatment of a few relatively rare diseases. Among those are: polycythemia, a hematologic disorder characterized by an increased concentration of red blood cells; hemochromatosis, a hereditary disorder that causes the small intestines to absorb excessive amounts of iron; and porphyria cartenea tarfa (PCT), one of several conditions caused by an enzyme deficiency that are collectively known as porphyrias. PCT is caused by deficiency of an enzyme called uroporphyrinogen decarboxylase and exacerbated by exposure to toxic chemicals including Agent Orange and certain herbicides, alcohol and drugs such as estrogen and iron supplements. See Salena M. Wright and Jean Finical, "Beyond Leeches: Therapeutic Phlebotomy Today," *The American Journal of Nursing*, vol. 100, no. 7 (July, 2000) pp. 55-56, 58-59 and 61-63.

Use of leeches has also had a limited comeback in modern medicine. In the early years of the 20th century it was discovered that the mouth and throat of the leech contain a substance that prevents blood from coagulating. See R. T. Sawyer, "Leeches—New Role for an Old Medicine," *Ward's Bulletin*, Spring, 1986, pp. 1-4. The compound was isolated and named hirudin. However, with the advent of heparin, there is no longer significant reason to use leeches for that purpose. Beginning in the 1970's medicinal leech therapy was introduced primarily for use in plastic and reconstructive surgery, postoperative venous congestion and graft rejection. Leech application often has a positive effect in treatment of superficial phlebitis and may improve the cosmetic appearance of spider-burst veins. The anti-inflammatory and circulation-enhancing effects of chemicals in leech saliva combined with blood and lymph drainage are of benefit in arthrosis pain management. The most valuable use of leech-therapy is in preventing thrombosis or insufficiency of anastomosed arteries that may occur in corrective microsurgery. In such procedures, leeches serve to drain replanted or transplanted tissue. The most comprehensive study of leech therapy is Andreas Michalsen, Manfred Roth and Gustav Dobos, *Medicinal Leech Therapy* (New York, 2007). See also Michelle M. O'Hara, "Leeching: A Modern Use for an Ancient Remedy," *American Journal of Nursing*, December, 1988, pp. 1656-1658.

15. See J. David Bleich, *Contemporary Halakhic Problems*, IV (New York, 1995) 188-192.
16. Cf., R. Abraham Chaim Noe, *Kezot ha-Shulhan*, VII, no. 134; *Badei ha-Shulhan*, sec. 7; and R. Noah Siegel, *Teshuvot Olat Noah*, no. 3; and *Ziz Eli'ezer*, VIII, no. 15, chap. 15, secs. 2-4.
17. Side effects may include headache, flushing, indigestion and changes in vision, principally altered vision perception and blurred vision caused by a decrease in blood flow to the optic nerve and possibly also a sudden decrease or loss of hearing. In combination with organic materials, Viagra may cause a sudden, unsafe drop in blood pressure that can lead to fainting, stroke or a heart attack and hence is contraindicated for any patient taking certain medications including nitroglycerine.
18. Cf., however, *Magen Avraham* 328:43 who permits use of such substances only if imbibed by the patient to satisfy hunger, to slake thirst or to satisfy desire. Cf., *Mishnah Berurah* 328:120 and 328:121. *Magen Avraham's* view is rebutted by *Eglei Tal*, *Meleket Toben*, sec. 47; *Torat Shlomoh* 328:49; and *Bi'ur Halakhah* 328:36. See also *Ziz Eli'ezer*, XIV, no. 50, sec. 2.
19. This was also the view of *Hazon Ish* and R. Ya'akov Kanievsky. See sources cited by R. Joshua Neuwirth, *Shemirat Shabbat ke-Hilkhakah*, 2nd edition, I, 34:17, note 79 and R. Abraham, ha-Levi Hurwitz, *Orhot Rabbenu, ha-Kehillat Ya'akov*, I, no. 214, pp. 155f. That position is also accepted by *Iggerot Mosheh*, *Orah Hayyim*, III, no. 53.
Sefer ha-Hayyim's view is disputed by R. Shalom Mordecai Schwadron, *Da'at Torah*, *Orah Hayyim* 328:36. See also *idem*, *Hagahot Maharsham*, *Orhot Hayyim* 328:27. R. Moshe Stern, *Teshuvot Be'er Mosheh*, I, no. 33, sec. 7, follows the position of *Da'at Torah*. See also *Ziz Eli'ezer*, VII, no. 15, chap. 15, sec. 15. In light of Rambam's ruling cited herein, it would appear that the controversy between *Sefer ha-Hayyim* and *Da'at Torah* is limited to situations in which the earlier illness will not again become manifest if the medication is interrupted on *Shabbat*.
It should be noted that in a later work, *Shenot Hayyim*, I, no. 152, sec. 5, R. Shlomoh Kluger reiterates his earlier recorded "commonly known leniency" but declares that it applies only if the illness has not dissipated (*lo pasak*) before *Shabbat*; apparently, then, if symptoms of the illness are no longer present, the medication may not be continued on *Shabbat*. However, as evident from Rambam's rulings, if discontinuation of the medication will cause a new outbreak of the illness, the medication may be continued. If so, there may be no controversy between *Da'at Torah* and *Sefer ha-Hayyim*. Cf., however, *Ziz Eli'ezer*, VIII, no. 15, cap. 15, sec. 16, who apparently assumes that *Da'at Torah* forbids continuation of medication on *Shabbat* even in such circumstances.
20. The source of this ruling, the Gemara, *Shabbat* 140a, permits use of medication on *Shabbat*, at least under some circumstances, when the medication had previously been used on Thursday and Friday. Rambam, *Hilkhot Shabbat* 22:7, codifies the rule in that manner. However, in *Hilkhot Shabbat* 21:22, Rambam states only that "If he drank *haltit* before *Shabbat* he may continue drinking it on *Shabbat*." Cf., *Ziz Eli'ezer*, *ibid.*, sec. 16. There seems to be no explicit source in the writings of early-day authorities

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- permitting commencement of therapy on *Shabbat*.
21. See *Orhot Rabbenu*, I, no. 214, pp.155f. Cf., R. Shlomoh Kluger, *Sefer ha-Hayyim* 328:6; who asserts that a person requiring medication for a period of days prepares a sufficient quantity in advance and hence has no reason to pulverize ingredients on *Shabbat*. *Ziz Eli'ezer*, VIII, no. 15, chap. 15, sec. 15, refutes that view and *ibid.*, sec. 17, offers the unlikely explanation that only a person who believes that medication will cure him the same day will be likely, in his agitation or excitement, to pulverize medicaments.
 22. See *Ziz Eli'ezer*, VIII, no. 15, chap. 15, sec. 16 and *Teshuvot Be'er Mosheh*, I, no. 33, sec. 7.
 23. Cf., however, the controversial ruling of R. Yonatan Steif regarding use of aspirin on *Shabbat*, cited by *Be'er Mosheh*, I, no 33, sec. 5, II, no. 32 and VI, no. 39. See R. Abraham Chaim Noc, *Kezot ha-Shulhan* 138:31; R. Jacob Breisch, *Teshuvot Helkat Ya'akov*, IV, no. 41; and R. Yitzchak Ya'akov Weisz, *Teshuvot Minhag Yitzchak*, II, no. 35, who rule that the usual regulations governing use of medications on *Shabbat* apply to aspirin as well.
 24. See also *Teshuvot Helkat Ya'akov*, III, no. 23. *Be'er Mosheh*, I, no. 33, sec. 8, permits fertility medication on *Shabbat* for a completely opposite reason. Although his view is certainly subject to dispute, *Be'er Mosheh* asserts that failure to conceive does not constitute a malady within the ambit of the prohibition against therapeutic treatment on *Shabbat*; hence, as noted earlier, treatment is permitted since medications are permitted to an entirely healthy person.
 25. See also *Nishmat Avraham*, I, *Orah Hayyim* 321:2.