

RABBI ASHER BUSH

# *Bone Marrow Donation in Halakhah*

## **Introduction**

On December 1, 2011, the Ninth U.S. Circuit Court of Appeals ruled that in certain cases, bone marrow donors may be paid.<sup>1</sup> This is in striking contrast to all other organ donations, regarding which federal law prohibits payments for organs. Those laws were enacted in order to protect vulnerable poor people from feeling pressure to sell their vital organs and possibly risk their lives in the process. The court ruled that the newer Peripheral Blood Stem Cell (PBSC) form of marrow donation, which takes the cells from the blood itself and not the bones, more closely resembles donations of blood plasma, which by law may be done for money. This ruling does not impact the older type of marrow donation, wherein the marrow is removed directly from the bones; it remains a crime to compensate donors for that process.<sup>2</sup>

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1 *Flynn v. Holder*. For a full clarification of the medical ramifications of this ruling, see “Selling Bone Marrow-Flynn vs. Holder,” *New England Journal of Medicine* 366:4 (2012): 296-7.

2 The National Organ Transplant Act makes it illegal to buy or sell organs for profit; the penalty for breaking this law is a fine of \$50,000. And/or up to five years in jail.

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The suit had been brought by a father whose son died of leukemia, claiming that the lack of sufficient numbers of bone marrow donors contributed to his son's death. Aside from the strictly legal issues, the suit highlights two major points: first, the lifesaving potential of these procedures, and second, the difficulty in finding enough individuals who are willing to become marrow donors. Approximately 30 percent of patients in need of a stem cell donor find a match within their families. The remaining 70 percent search a worldwide database of unrelated volunteer donors, who may be their "miracle match" willing to donate life-saving cells.<sup>3</sup> According to the American Bone Marrow Donor Registry, the chance of finding a donor for a leukemia patient who does not have a suitable family member for transplant is 1 in 20,000, meaning that only 1 in 20,000 members of the general population are suitable to serve as donors for any given individual.<sup>4</sup> As will be seen below, some of the reasons that people might hesitate to volunteer to serve as the older type of bone marrow donors do not apply to the newer PBSC procedure.

While these issues affect both the Jewish and general populations in equal measure, because the potential to find a match is often related to racial and ethnic background, it is more likely that a patient will find a match in a community (or

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3 <http://www.dana-farber.org/How-to-Help/Donate-Bone-Marrow.aspx> (accessed August, 2012).

4 For this reason, large numbers of individuals must be tested so that matches can be found for the many patients in need. Given the large pool of potential donors who have been tested, donors can indeed be found for the significant majority of patients (although this does not mean that every one of these procedures is successful). According to the National Marrow Donor Program ([http://marrow.org/News/Media/Facts\\_and\\_Figures\\_%28PDF%29.aspx](http://marrow.org/News/Media/Facts_and_Figures_%28PDF%29.aspx), updated January 2012), 93% of Caucasian patients do find non-related donors, 73% of Asian-Americans find donors, and 66% of African Americans find matches. Individuals of mixed races often have extreme difficulty in finding a match. The National Marrow Donor Program (Donation FAQs) reports that "On average, one in every 540 members of the Be The Match Registry in the United States will go on to donate bone marrow or peripheral blood stem cells (PBSC) to a patient."

communities) that meet this criterion. Thus, this is a matter of public health and policy for the larger world which we are part of as well as an internal one for the Jewish community.

The purpose of this paper is to examine the issue of bone marrow donation from the point of view of Halakhah. While aspects of this topic have been addressed in detail elsewhere, other elements have escaped serious analysis. Additionally, the newer PBSC procedure is substantially different from the older bone marrow transplant procurement and in recent years accounts for the majority of these donations.<sup>5</sup> These are changes that could potentially have significant ramifications in Halakhah, and both of these procedures will therefore be evaluated. We will first discuss the general halakhic issues relating to the obligation to save lives, followed by a basic presentation of blood donation procedure, regular bone marrow donation, and PBSC. Subsequently, each will be examined and evaluated in light of the halakhic sources and rulings.

### **Risk to the Life of the Rescuer**

In the verse “*lo ta’amod al dam rei’akha*,” “You may not stand by the blood of your fellow,” the Torah clearly mandates active and personal involvement in the saving of lives.<sup>6</sup> The Talmud in *Sanhedrin* elaborates on this *mitzvah*, stating that this obligation does not simply mandate actions; if needed, one must even spend one’s money in the course of saving lives.<sup>7</sup> Surprisingly, there is no discussion about the very real question of whether one is obligated to risk his own life to save another’s. This is surprising because the cases mentioned by the Talmud include rescuing a drowning person and protecting a person

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<sup>5</sup> Since 2003, the majority of donors have been asked to donate PBSC; in 2007, this group constituted 72% of the donors. This information is reported in J.P. Miller et al., “Recovery and safety profiles of marrow and PBSC donors: Experience of the National Marrow Donor Program,” *Biology of Blood Marrow Transplant* 1 (9 Suppl) (Sept. 2008): 29-36.

<sup>6</sup> *Vayikra* 19:16.

<sup>7</sup> *Sanhedrin* 73a. Thus, it is necessary to hire workers or rent equipment in order to save a life.

from an attacking wild beast and from bandits. In each of these cases, it is quite possible that the rescuer may often be placing himself into significant danger.

In his comments to that passage, the Meiri explicitly writes that this *mitzvah* does not obligate risking one's own life in an attempt to save one's neighbor.<sup>8</sup> R. Yosef Karo, however, cites a passage from the Talmud Yerushalmi that presents a significantly different approach, stating that the obligation to save another person also applies in cases in which the rescuer will be placing himself in *possible* danger. R. Karo explains that since this danger to the rescuer is "only" a possibility and not a certainty, while the danger to the other person is a certainty, the Torah obligates us to undertake the rescue despite the risk.<sup>9</sup>

Although R. Karo cites this view in his *Beit Yosef*, he does not codify it in the *Shulhan Arukh* and it is not accepted as authoritative by the great *Posekim*.<sup>10</sup> Accordingly, the Sema writes that the silence of the Babylonian Talmud indicates that

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8 *Beit Ha-Behirah*, *Sanhedrin* 73a.

9 *Beit Yosef*, *Hoshen Mishpat* 426. Ordinarily one cannot prioritize one life over another due to the rule of "*mai hazit di-dama didakh sumac tefei*." Each life is of equal value in the eyes of *Halakhah*. However, in this case, since one life will certainly be lost and the other is only a (minority) possibility, that logic no longer applies.

A similar idea is seen in the words of Rashi, *Sanhedrin* 71b, s.v. *yatza rosho*, in which he explains why an abortion is permitted to save the life of the mother but forbidden once the child's head has emerged. He also addresses the biblical account of Sheva ben Bichri, whose death seems to be in violation of these rules.

10 As explained by the Sema, *Hoshen Mishpat* 426:2 and the *Arukh Ha-Shulhan*, *Hoshen Mishpat* 426:4, this opinion is not accepted by the Talmud Bavli, as seen from its omission from the works of the Rif, Rambam, Rosh, and Tur; hence its omission from the *Shulhan Arukh*. This is also the understanding of the *Minhat Hinukh*, *mitzvah* 237. *ot* 2, who writes that this idea actually defies the general logic of the Talmud, as *safek pikuah nefesh* is deemed sufficient reason to exempt from *mitzvot*, and this should be true particularly in this case, in which the violation is completely passive. The *Arukh Ha-Shulhan* also views this omission by the *Rishonim* as acknowledgement that the Bavli rejected this ruling of the Yerushalmi. Strikingly, the *Arukh Ha-Shulhan* warns one not to be "too careful" when deciding not to save the life of another.

it rejects the idea that the *mitzvah* to save another person ever demands that the rescuer endanger himself, even if that danger is not certain.<sup>11</sup>

Nevertheless, it is evident that a guarantee of safety is not necessary in order for there to be a *mitzvah* to rescue another person, as it is clear from the various examples mentioned in the Talmud that risk factors certainly may be present. Those activities whose risks are negligible to the point that they are not thought of as “risky” are precisely the activities that the Torah has obligated, even though there may be some slight risks involved.<sup>12</sup> For a qualified lifeguard, there still remains a risk to jump into a pool to save a drowning swimmer, yet it is not possible to suggest that he is not obligated to do so, as common sense does not group this kind of a rescue with “dangerous activities.”

Given this difficult balance, there could well be a tendency for a potential rescuer to go to an extreme when deciding whether to assume such risks, with the decision too often being not to embark on the rescue mission. With this in mind, many *Posekim*, including the *Mishnah Berurah*, caution not to be overly meticulous when making this evaluation.<sup>13</sup>

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11 Sema, *ibid.* Presumably, this question is too significant to simply be ignored; as such, the “no comment” of the Talmud is taken to preclude such an obligation. Alternatively, as the *Minhat Hinukh* argues (*ibid.*), this ruling is in contradiction to the established ruling that even *safek pikuah nefesh* exempts from *mitzvah* obligations.

12 It should be pointed out that the Sages of the Talmud did not generally work with formal statistics as we know them, instead basing their evaluations on common sense or the common knowledge of the day. It is generally accepted that in almost all areas of Halakhah, statistics and expert opinions as used today have great value in making the determination as to whether a situation is deemed safe or excessively risky. It is also worth noting that certain activities are commonly viewed as “more risky” than others when in fact this is not true; a common example is the perception that air travel is more dangerous than automobile travel.

13 *Mishnah Berurah* 329:19: “One must evaluate well if the matter entails a possibility of danger and one should not be overly meticulous.” Similarly, the *Arukh Ha-Shulhan*, *Hoshen Mishpat* 426:4, writes: “One should evaluate the matter well and should not overly protect himself.”

## **Surrendering a Limb or Organ to Save a Life**

Writing in the sixteenth century, R. David ben Zimra (Radvaz) addresses a question that may seem unfathomable to us in the modern era but has assumed great relevance for us today.<sup>14</sup> A Jew had been seized by a despot and was sentenced to death. The despot offered a second Jew the gruesome choice of allowing the amputation of a limb (which would not jeopardize his life) in order to save the life of his fellow Jew. The question was asked whether this man was obligated to give up his limb to save the other person. Marshaling no less than six different sources, Radvaz writes that no such obligation exists, but it is permitted for him to do so; if a person were to do so, it would be viewed as a *middat hassidut*, an act of extra piety. In the event that giving up this limb would entail mortal risks, he would then enter the category of *hassid shoteh*, a pious fool.

While the idea of organ transplantation certainly never crossed the Radvaz's mind, his words serve as the primary source for the question of the permissibility of live donor transplants. Is there an obligation to donate an organ? Is it only a highly meritorious deed? Or is it perhaps not permitted at all? It is clear from this responsum that at no time is there ever a Torah based obligation to donate a limb or organ, even when there is no mortal danger to the donor and the donation will result in saving the life of the recipient.

Although the Radvaz's responsum may serve to provide clear guidance for cases of organ donation that entail full surgery to remove an organ, there are a number of other significant cases that may not be fully clarified through his words, as will be addressed below.

## **Enduring Pain to Save a Life**

The question of whether the *mitzvah* of *pikuah nefesh* obligates a person to endure physical pain or discomfort in order to save the life of another is not directly addressed in the

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<sup>14</sup> *Teshuvot Ha-Radvaz* 2:1052.

classical sources, but it is likely the most important single factor in determining how bone marrow donations are viewed in Halakhah. A careful reading of numerous sources demonstrates that the *mitzvah* to save a life applies even in cases in which the rescuer may or will certainly experience physical pain or discomfort.<sup>15</sup> Thus, for example, if a lifeguard needs to run

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15 It should be noted that none of these may be the actual source or reason that the obligation exists in these cases, but are merely indications of the fact that the possibility or even guarantee of pain or discomfort would not serve as an exemption from this *mitzvah*.

There are two significant sources that do seem to indicate that a person would not be obligated to accept significant pain or discomfort in order to save the life of another. The *gemara* in *Nedarim* (80b) cites a Tosefta that states: “Regarding the [use of the] well belonging to the inhabitants of the city – [if the water can be used to save] their lives or the lives of others, their lives take precedence over the lives of others. Their animals or the animals of others – their animals take precedence over the animals of others. Their laundry or the laundry of others – their laundry takes precedence over the laundry of others. The lives of others or their own laundry – the lives of others take precedence. R. Yose says: Their laundry takes precedence to the lives of others.” The simple reading of this text seems to indicate that R. Yose is of the opinion that the avoidance of personal discomfort takes priority over saving the life of another. However, the Talmud explains that the result of lack of ability to launder clothing is not simply the discomfort of wearing soiled garments, but “*she’amumita*,” explained by Rashi to mean “*shiga’on*,” insanity. Thus, in the case under discussion, there may be a genuine fear of mental health issues that, rare as they may be, could be considered potentially life-threatening. Accordingly, the Netziv (*Ha’amek She’elah, mitzvah* 147:4) explains the *mahloket* to be whether one must accept the limited/obscure risk posed by lack of clean laundry in order to save the lives of others. The *Hafla’ah* (*Kuntres Aharon Le-Mesekhet Ketuvot* 80:12) dismisses the possibility that pedestrian concerns such as laundry could take precedence over risks to life and therefore concludes that in the case at hand, the inhabitants of the other city, although in danger, could find other sources of water.

Another source that seems, at first glance, to indicate that personal concerns may override the need to save the life of another is a view cited by the *Shulhan Arukh* (*Even Ha-Ezer* 80:12) concerning the obligation of a nursing woman to maintain a healthy and safe diet for the sake of her child’s health: “There are some who say that her husband cannot compel her [to avoid excessive or unhealthy foods] because of the potential danger to the infant, as the pain of her body takes precedence.” The commentaries on the *Shulhan Arukh* (*Helkat Mehokek* ad loc. 22; *Beit Shmuel* ad loc. 15) struggle

through an area where he will cut his feet in order to reach a drowning swimmer, the pain and bleeding associated with that limited injury do not justify refraining from saving the swimmer. Similarly, it would follow that the possibility of experiencing such pain or injuries would be required when offering help in medical situations.

As noted above, the Talmud provides three illustrations of the *mitzvah* of *lo ta'omod al dam rei'akha*: saving a person from drowning in a river, saving a person who is being mauled by a wild beast, and protecting a person from bandits. Little more is said about these cases, but it is difficult to imagine that the physical efforts required to accomplish any of these three rescue missions would not likely involve (at least) minor injuries and accompanying pain. In the case of the drowning person, this could include the discomfort of running on a rough rocky surface, cramping, and the physical strain of the rescue. In the case of the wild beast, it is hard to envision a rescue that would not demand close proximity to the animal, so that even a well-armed rescuer could likely receive bites, scratches, and other injuries. Only in the case of bandits might the mere appearance of a well-armed rescuer be an effective deterrent, although in many common scenarios, the use of force and fighting may also be necessary and injuries are quite likely as well.<sup>16</sup>

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to explain how ensuring a woman's personal comfort could possibly be permitted if it jeopardizes her child's life. Rav Moshe Feinstein (*Iggerot Moshe, Yoreh De'ah* 1:145) concludes that this opinion should not be viewed as supporting the idea that one need not undergo discomfort to save the life of another. Rather, both the case in *Nedarim* and the case of the nursing woman pertain to situation in which the "other" will experience discomfort but will not be endangered if one fails to sacrifice on his behalf.

<sup>16</sup> The *Sifra, Kedoshim* 4:8, presents a fourth case: a person who knows information that can save/aid another is not permitted to refuse to testify on his behalf. That case is significantly different than the Talmud's three cases (which are also quoted in the *Sifra*), as it does not include physical pain or injury. The Malbim explains that this case actually fits better than all of the others in context of the verse from which the *mitzvah* is learned. The first half of the *pasuk* commands, "*lo telekh rakhil be-amekha*;" the second half teaches that there are exceptions to this rule, as there are times when one



As understood by the Sema, as noted above, the dispute between the Talmud Bavli and Talmud Yerushalmi is only regarding whether the obligation to save another extends to cases in which the rescuer might be risking his own life in the course of the rescue mission. However, there is no question found regarding the matter of enduring pain and discomfort, and the *Rishonim* and *Aharonim* who explain this passage of the Talmud do not comment on or even acknowledge this omission. The classical understanding of this topic is that it is only the prospect of danger that generates an exemption according to the Talmud Bavli; the fact that lesser concerns, such as pain or discomfort, were never addressed in this context would seem to indicate that they were not viewed as reasons or justifications to exempt a person from the obligation to save his fellow.

The obligation to spend money in order to save someone's life also indicates that discomfort is not reason for exemption. Rashi does not limit this obligation to financial efforts, writing that one must pursue all angles to save the life of one's fellow. From his inclusive language, it can be inferred that he understands the obligation to spend money as including all methods of rescue.<sup>17</sup> This is even more evident from the language of the Meiri, who states that any act that will not endanger the life of the rescuer is included in this requirement; a non-dangerous but pain causing situation or injury would certainly be included in this obligation as he explains it.<sup>18</sup>

Furthermore, as previously mentioned, the Radvaz offers six reasons why he believes that there is no obligation to sacrifice a limb even to save another person. Significantly,

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should not refrain from speaking badly of others, as when his honest testimony will protect his fellow from an incorrect verdict in court. It may be for this reason that the *gemara* was compelled to use the idea of *aveidat gufo* as an additional source for the obligation to save another person, as the verse's obligation might be limited to "safe" activities such as courtroom testimony.

Rashi, *Sanhedrin* 73a, s.v. *ka mashma lan*: "Meaning that one should find any means to prevent the loss of his friend's blood." This is also the conclusion of the Netziv, *Ha'amek She'elah* 129:4.

<sup>18</sup> *Beit Ha-Behirah, Sanhedrin* 73a.

however, at no point does he suggest the possibility of pain or discomfort as reasons for the exemption, even though in most cases such a procedure would presumably be quite painful.<sup>19</sup>

The status of *sakanat ever*, potential loss of a limb, is also relevant to this discussion. The *Shulhan Arukh* rules that that in order to avoid violating a negative *mitzvah*, a person must give up all of his money if necessary, while for a positive *mitzvah* it is sufficient to spend up to 20% of one's resources.<sup>20</sup> The Shakh questions whether one must be willing to suffer *sakanat ever* for the sake of a *mitzvah*. Is the loss of a limb regarded in the same category as the loss of life, and therefore not required (or even permitted), or is it more comparable to the loss of property, which must be sacrificed for the sake of avoiding violation of a negative *mitzvah*?<sup>21</sup> While the Shakh concludes that one need not sacrifice a limb in this context, his words clearly imply that discomfort or injuries of a lesser nature would not be excluded; they are not grounds for exemption from performing a *mitzvah*. Accordingly, one must be willing to suffer pain or discomfort for the sake of fulfilling the *mitzvah* of *lo ta'amod al dam rei'akha*, as well as every other negative *mitzvah*.<sup>22</sup>

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19 The Radvaz does apply the concept of “*ein onshin min ha-din*.” Just as we cannot administer corporal punishment based on the logic of a *kal va-homer*, there cannot be an obligation to allow the removal of a limb or organ based on a *kal va-homer*. This statement might lead to the conclusion that the Radvaz's exclusion of any obligation to surrender a limb also excludes the possibility of obligating the acceptance of pain. However, this does not seem to be a correct reading of the Radvaz. He is not arguing that there cannot be an obligation to surrender a limb, but merely that if such an obligation does exist, it cannot be based on the logic of *kal va-homer* and must instead have its own independent source.

20 *Shulhan Arukh*, *Yoreh De'ah* 157:1, *Orah Hayim* 656.

21 Shakh, *Yoreh De'ah* 157:3.

22 It should be noted that the Shakh was not specifically addressing the parameters of *lo ta'amod al dam rei'akha*, but was rather providing guidelines for all negative *mitzvot*. Of relevance to this discussion is the debate among the *Posekim* (*Pithei Teshuvah* YD 157:4, *Hiddushei R. Akiva Eiger* YD 157:1) regarding whether a *lav she-ein bo ma'aseh*, including *lo ta'amod al dam rei'akha*, should be viewed as a *mitzvat ase* or a *mitzvat lo ta'ase*.

R. Moshe Feinstein (*Iggerot Moshe*, *Yoreh De'ah* 2:174, part 4) assumes that

The conclusion that discomfort is not adequate reason to exempt one from the *mitzvah* of *pikuah nefesh* may also be drawn from the fact that it is explicitly noted as reason to exempt a person from the *mitzvah* of *sukkah*.<sup>23</sup> A “*mitzta’er*,” one who will experience discomfort if he dwells in the *sukkah* as required, is exempt from doing so;<sup>24</sup> since the requirement is “*teshvu ke-ein taduru*,” to dwell in the *sukkah* in the same manner as one dwells in his home, it is not considered a *mitzvah* to sit in the *sukkah* if one experiences discomfort.<sup>25</sup> The exemption rooted in discomfort uniquely applies to sitting in a *sukkah* and not to *mitzvot* in general. Thus, for example, if one finds that eating *matzah* or drinking four cups of wine at

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the Shakh reasons that one is only obligated to sacrifice his property, but never anything more, by definition precluding giving a limb, which is worth far more to people than their money. While R. Feinstein does not say so explicitly, this might also preclude cases of significant pain or distress even when there is no loss of a limb. It may be for this reason that R. Feinstein (*Iggerot Moshe, Hoshen Mishpat* 1:103) writes that blood donations only involve minor discomfort. Were the pain to be more significant, he might have viewed such donations differently. Even according to this approach, however, the fact that the Shakh specifically writes about *sakanat ever* and does not mention pain or discomfort would require further clarification following the approach of R’ Feinstein.

23 This proof comprises a major portion of the responsum of R. Shmuel Wosner on the topic of blood donations; see *Shevet Ha-Levi* 5:219. This contrast is most strikingly seen in the Ran (*Sukkah* 27) who quotes the various opinions of the *rishonim* regarding the obligation to eat in the *sukkah* on the first night of Sukkot. Some say that just like *matzah* must be eaten at the *seeder*, discomfort notwithstanding, so too the *sukkah* must be used in a case of discomfort. While even those who reject the idea of eating in the rain and discomfort on the first night still point out that even though many comparisons are to be made between the obligation of the first night of Pesach and the first night of *sukkot*, in this regard they are dissimilar, as only on the first night of Pesach must the *mitzvah* be done even in a state of discomfort, while on the first night of *sukkot* one is exempt.

24 *Sukkah* 25a-26a.

25 The *gemara* clearly only refers to discomfort caused by sitting in the *sukkah* that may be ameliorated by leaving the *sukkah*. Other types of discomfort, such as the emotional pain of a mourner, are not grounds to exempt a person from this *mitzvah*.

the *sefer* leads to an upset stomach or the like, he would still be obligated to fulfill the *mitzvah*.<sup>26</sup> If the exemption of *mitzta'er* applies uniquely to *sukkah*, there would be no justification to exempt a rescuer from saving the life based on this concept.

A final indication that discomfort does not serve as a reason for exemption from the *mitzvah* of *pikuah nefesh* can be gleaned from that rather surprising comparison between the *mitzvah* of *pikuah nefesh* and that of *hashavat aveidah*, returning lost objects. The Talmud concludes that the *mitzvah* of *ha-*

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26 The *Shulhan Arukh*, *Orah Hayim* 472:10, rules that one who dislikes or avoids wine must push himself to drink it in order to fulfill the *mitzvah* of drinking the four cups. The *Mishnah Berurah* (472:35) limits the application of this obligation somewhat, writing that the need to push oneself to drink does not extend to all cases of sickness, seemingly implying that the *halakhah* of “*mitzta'er patur min ha-sukkah* is not unique. In the *Sha'ar Ha-Tziyun* (52), however, he writes that the reasoning for this limitation is that drinking must be performed in a manner that demonstrates freedom (*derekh herut*), thus making it clear that any possible exemption in the case of the four cups is also unique and does not apply to other *mitzvot*.

R. Moshe Shick (*Teshuvot Maharam Shick*, vol. 8, *Orah Hayim* 260) addresses the question of whether a person may eat *matzah* if his doctor has warned him of potentially lethal consequences and struggles with the particular issue of eating or drinking in a case in which lesser sickness or bodily harm will result. He concludes that if a person is made ill or harmed at the moment that he eats or drinks a particular food, it is not considered a halakhically valid form of eating. If, however, the harm results only at a later point (such as cases of indigestion), it is considered a normal act of consumption and is valid to perform a *mitzvah*. Unlike the *Mishnah Berurah's* explanation, which limits the exemption of discomfort specifically to the case of eating *derekh herut*, the Maharam Shick's explanation would apply to any area of halakhah, potentially exempting a person for reasons of discomfort in the realms of Pesach, Yom Kippur, or *kashrut*.

While the *Mishnah Berurah* based any possible exemptions for *matzah* and the four cups on unique *halakhot* of Pesach, and the *Maharam Shick* based his on the definition of an act of eating, this approach is not accepted by all, as is seen in *Helkat Yoav* (*Dinei Ones*, sec. 7) and other *posekim* who follow that approach; [*Nishmat Avraham* (HM 420:4) quotes *posekim* on each side of this debate]. According to these *posekim* one is exempt from any positive *mitzvah* if it will result in sickness; accordingly, the exemption of *mitzta'er* found in the laws of *sukkah* does not apply to cases of sickness, only to other forms of discomfort.

*shavat aveida* is actually the primary source of the obligation to save another person's life.<sup>27</sup> In an admittedly novel approach, R. Shlomo Kluger writes since *pikuah nefesh* is based on *ha-shavat aveidah*, the two *mitzvot* should be subject to the same limitations.<sup>28</sup> Accordingly, just as a person is not obligated to return a lost object in a case in which returning it would be beneath his dignity and he would not bother with the object even if it were his own, one is similarly not obligated to engage in an act of life saving if the act is beneath his dignity and it is not something the rescuer would do (or want done) were he to be in that same situation.<sup>29</sup> If we are to take this comparison seriously, it would seem that rather than creating an exemption, in more cases than not, it would help clarify and define the obligation. A person may not simply declare that it is beneath his dignity to return a lost object; rather, this decision need be based on how he would treat this lost object if was his own. By analogy, one is not exempt from saving others simply because it is beneath his dignity to do so; rather that decision too should be based on what he would do (or want others to do) if he were in a similarly life-threatening situation. In most cases, it is safe to say that one would indeed want others to endure discomfort in order to save his life. One would therefore be obligated to similarly endure discomfort in order to save someone else's life.<sup>30</sup>

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27 *Sanhedrin* 73a.

28 *Hokhmat Shlomo, Hoshen Mishpat* 426.

29 It should be noted that R. Moshe Feinstein (*Iggerot Moshe, Yoreh De'ah* 2:172, part 3) dismissed this notion as incorrect: "Begging forgiveness from these *ge'onim*, it is clear that this is a complete error... for if the honor of Heaven is pushed aside, as we see from the fact that all of the most severe prohibitions of the Torah, such as Shabbat and forbidden foods, are overridden to save the life of even the most unworthy, and even one who violates prohibitions due to his desires, how much more so that the honor of human beings is pushed aside, and even the honor of the greatest of the great." The major objections of R. Feinstein would likely not apply given the explanation we have offered for R. Kluger's position, according to which maintenance of one's dignity is not sufficient grounds for exemption.

30 There may be rare cases of extreme pain and suffering that a terminal

Given these sources, the premise that the *mitzvah* of *lo ta'amod al dam rei'akha* applies even in cases in which the rescuer will be forced to endure pain and suffering is accepted by a number of contemporary *Posekim*, including R. Shlomo Zalman Auerbach,<sup>31</sup> R. Ovadia Yosef,<sup>32</sup> and R. Shmuel Wosner.<sup>33</sup>

## Blood Donation

Blood donation is a mildly invasive procedure that saves countless lives, most commonly for accident victims and surgical patients who have suffered significant loss of blood. There is a 0% mortality rate and the side effects are quite minor, the immediate one being at worst short term minor pain, sometimes followed by bruising (found in less than 1% of donors). Unlike cases of organ donation, the body regenerates 100% of the blood (on average in 36 days).<sup>34</sup>

The *Posekim* permit this procedure even though the process of blood donation requires making an injury and the Torah clearly prohibits *havalah*, injuring another person (or oneself).<sup>35</sup> The reason for this permissibility is twofold. First, the very definition of “injuring” may be limited to cases in which a needless injury is caused, but not those that are beneficial.<sup>36</sup> Such injury would be permitted even if it were not

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patient may not want to endure. For possible examples, see *Iggerot Moshe, Yoreh De'ah* 2:174, part 3. This is not the norm, however, and likely not relevant to the present discussion.

31 This ruling is quoted in *Nishmat Avraham, Even Ha-Ezer* 80:1, in reference to bone marrow donations.

32 See *Yabia Omer*, vol. 9, *Hoshen Mishpat* 12, which addresses the matter of live kidney donations and in which R. Yosef analyzes many of the pertinent sources.

33 See *Shevet Ha-Levi* 5:119, in which R. Wosner rules that blood donation for a critical care patient is obligatory.

34 See MayoClinic.org, “Blood Donation: Risks” (accessed May 26, 2011); fda.gov, Vaccines, Blood & Biologics, “Fatalities Reported to FDA Following Blood Collection and Transfusion: Annual Summary for Fiscal Year 2009” (accessed August 2012).

35 *Bava Kama* 90b-91b; Rambam, *Hilkhot Hovel U-Mazik* 5:1.

36 R. Shlomo Zalman Auerbach (cited in *Nishmat Avraham, Yoreh De'ah*

lifesaving, as blood transfusion is. Second, in this case the pain, is minor.<sup>37</sup>

R. J. David Bleich<sup>38</sup> and R. Mordechai Willig have gone further, ruling that in cases in which there is a critical patient who needs this particular blood for a transfusion (*holeh mesukan befanenu*), it is not only a *mitzvah*, but an obligation to donate blood. This is true both for plasma and platelet donation. The fact that there is some (minor) pain involved in this process did not deter these *Posekim* for viewing it as an obligation.<sup>39</sup> R. Hershel Schachter also accepts this approach, with

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349:3[4]) permits donating blood due to its lifesaving purpose, adding that most likely it does not enter the category of *havalah* at all. R. Yehoshua Neuwirth (cited in *Nishmat Avraham*, *ibid.*) likewise permits blood donations based on his understanding of the Rambam, who indicates that an act is only labeled as *havalah* when it is done “*derekh nitzahon*” (in the manner of fighting/assault), but not if it is done for a constructive purpose, such as a medical one. This is likely the logic of R. Shlomo Zalman Auerbach as well. Accordingly, a person may undergo elective surgery to relieve pain and, by extension, may allow a minor injury to himself to help another. This explanation is not dependent upon the fact that the pain entailed is minor, but rather that these “helpful injuries” are not included in the basic prohibition of *havalah*.

<sup>37</sup> See *Iggerot Moshe, Hoshen Mishpat* 1:103. One of the factors mentioned by R. Feinstein is that the procedure is almost painless. However, it is not correct to say that the general prohibition of *havalah* only applies once a particular threshold of pain is passed and that it is permitted to inflict minor amounts of pain. More likely, R. Feinstein is looking at the larger picture, balancing the minimal amount of pain as compared to the lifesaving potential of a blood transfusion.

<sup>38</sup> *Contemporary Halakhic Problems*, vol IV, “May Tissue Donations Be Compelled?”, p. 284; see also the following footnote.

<sup>39</sup> Oral communication with this author, November 2006. This view is also quoted in the report on “Halachic Issues in the Determination of Death and in Organ Transplantation” of the Vaad Halacha of the Rabbinical Council of America, June 2010. The fact that neither R. Feinstein nor R. Auerbach issued such a ruling need not be taken as rejection of this idea, as neither of them addressed this specific question; they were only asked about general donations and not those needed for a specific patient. When asked, Dr. Abraham S. Abraham confirmed that this understanding is indeed consistent with the approach of R. Auerbach (written communication, March 2012).

his only reservations being in cases of procedures with greater risk factors and perhaps cases in which risks may not yet be fully known.<sup>40</sup> A similar approach is recorded in the name of R. Shlomo Zalman Auerbach.<sup>41</sup>

This question was subject to debate between two of the leading *Posekim* in Israel. While not directly addressing the issue of *havalah*, R. Shmuel Wosner views blood donation as a simple and safe procedure with lifesaving potential. Accordingly, he rules that when a critical care patient is in need of this particular (type of) blood, it is an obligation to donate, and failure to do so would be a violation of *lo ta'amod al dam rei'akha*.<sup>42</sup> R. Eliezer Yehuda Waldenberg, in contrast, writes that while it is clearly meritorious to donate blood, there is no halakhic obligation to do so, even in cases in which a critical care patient is in dire need; accordingly, one would not be in violation of *lo ta'amod al dam rei'aka* if he did not give.<sup>43</sup> Significantly,

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40 Oral communication with this author, December 2011. This could have implications for the PBSC procedure, whose long term risks may not yet be fully clear at this point.

41 See *Nishmat Avraham, Even Ha-Ezer* 80:1; also see notes 49/50.

42 *Shevet Ha-Levi* 5:219. R. Wosner notes that bloodletting was considered a healthy procedure in ancient times, and was certainly not considered dangerous. Although this procedure is no longer performed, the very fact that it was once deemed acceptable indicates that giving small quantities of blood is not considered as putting oneself into a possibly dangerous situation. Since R. Wosner does not address the issue of *havalah*, it is impossible to reach formal conclusions regarding his opinion, but it is highly unlikely that he would disagree with the previously explained understanding of *havalah*, as disagreeing would bring into question the permissibility of any surgical procedure performed purely to relieve pain. If R. Wosner indeed deemed such procedures forbidden, in the cases of transfusions which he permitted (and mandated), the prohibition of *havalah* would be suspended only due to the element of *pikuah nefesh*.

43 *Tzitz Eliezer*, 16:23. R. Waldenberg writes that since the Torah considers one's blood to be his source of life ("ki nefesh ha-basar ba-dam hi" – *Vayikra* 17:11), it is impossible to obligate a person to donate more than a *revi'it* of blood. R. Waldenberg further rejects R. Wosner's proof from the permissibility of bloodletting, as the *gemara* considers that process to be somewhat dangerous under certain circumstances, and in modern times, the process is not considered healthy. (This final point is related to the discussion of



R. Waldenberg's view is motivated by the potentially lethal results of the procedure;<sup>44</sup> he does not compare blood donation to surrendering a limb (which, based on the Radvaz's ruling, would never be obligatory), nor does he seem concerned with the degree of pain involved. Thus, were it not for his concerns regarding the risk entailed, it seems that R. Waldenberg would accept the premise of R. Vosner and the other *Posekim* cited above, who argue that donations of regeneratable body parts whose removal do not present lethal risks are viewed as obligatory when there is a *holeh mesukan befanenu*.

In more common cases, in which there is no such critical patient waiting for this particular blood, donation is a *mitzvah*,<sup>45</sup> but not an obligation.

## **Bone Marrow Donation**

Like blood and platelets donation, the taking of bone marrow is a safe procedure with a 0% mortality rate,<sup>46</sup> and like other cases of live organ donor transplants, it is only performed in cases in which there is a patient with a critical need (*holeh mesukan befanenu*). Accordingly, it would follow that the same ruling that applies to blood and platelet donations should apply to bone marrow donation as well.

However, the standard process for the removal of bone marrow is far more complicated than that of blood donation. The collection of stem cells from bone marrow is a type of

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*nishtaneh ha-teva*, whether nature has changed over time.)

44 R. Waldenberg did not maintain that blood donors have noticeable risks of mortality, but rather reached this conclusion based on the fact that *Chazal* viewed the loss of a *revi'it* of blood as potentially dangerous.

45 Clearly being an act of *hesed* and fulfilling the words “*ve-ahavta le-re'akha kamokha*”.

46 A report by the National Institute of Health states that “life-threatening complications for marrow donors have been rare; there were 13 reported in 4,800 (0.27% or 1 in 370) analyzed marrow donations.” See the website of the International Association of Living Organ Donors (accessed August 2012). Because donors are closely monitored in the days and weeks following donation, these rare cases are effectively treated and there have been no reported fatalities.

surgery that is performed in an operating room. Needles are inserted through the skin, generally into the back of the pelvic bones (usually entailing 1-4 small incisions), a process lasting one to two hours. This procedure would be extremely painful without anesthesia; approximately 75% are given general anesthesia and approximately 25% are given regional anesthesia (either spinal or epidural). Following the marrow collection, the donor is taken to the recovery room while the anesthesia wears off. When the donor is fully alert and able to eat and drink, he is released from the hospital. It is quite common that the donor feels sore or tender at the collection site for several days, and bleeding is also possible. General side effects of the procedure include fatigue, lower back pain, and stiffness while walking; pain and stiffness can last anywhere from a few days to a few weeks, but most donors are back to their usual routine a few days after the donation. The bone marrow naturally replaces itself within four to six weeks.

Long-term side effects are rare, but possible. The National Bone Marrow Donor Program (NMDP) reports that 98.5% of donors feel completely recovered within a few weeks. About 1.34% of bone marrow donors experience a more serious complication due to damage to a bone, muscle, or nerve in the hip area, or related to the anesthesia. As reported by the Mayo Clinic, the most serious risk associated with donation of bone marrow involves the effect of the anesthesia during surgery,<sup>47</sup> but such risks are statistically extremely limited.<sup>48</sup>

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47 "Blood and Bone Marrow Donation," [www.mayoclinic.com/health/bone-marrow/MY00525](http://www.mayoclinic.com/health/bone-marrow/MY00525).

48 See "Under the Knife: Study Shows Rising Death Rates from General Anesthesia," *Time* (Aug 4, 2011), which records that the mortality rate due to general anesthesia is approximately one in 250,000; this includes all patients, including emergencies, accidents, the elderly, and critical care patients, who have higher mortality rates. Bone marrow donors tend to be younger and healthier and therefore have a much lower risk. The morbidity rates of otherwise healthy patients are somewhat higher than the mortality rates, but remain statistically so insignificant that they should not present any issue in the eyes of the Halakhah. A more recent study of the mortality rates in America from 1999-2005 indicates a slightly higher mortality

Given that the lethal risks involved in bone marrow donation are so negligible, both R. Mordechai Willig and R. J. David Bleich rule that marrow donation is obligatory for the sake of a critical care patient, just as donation of platelets or plasma is.<sup>49</sup> R. Shlomo Zalman Auerbach addresses this matter in a similar manner, ruling that it is a great *mitzvah* to be a bone marrow donor. If the transplant will likely save the life of the recipient but there is some risk to the life of the donor, donation is not an obligation, but it is proper to beseech that he donate. However, if there is no risk to the donor, even if significant pain and discomfort will result, he is in fact obligated to donate bone marrow.<sup>50</sup> This distinction, although clear and logical, seems to leave the practical question unresolved, as bone marrow is not harvested without anesthesia and its associated risks. Dr. Abraham S. Abraham has clarified that R. Auerbach ruled that the miniscule mortal risks associated with general anesthesia are not to be considered halakhically meaningful, and fear of anesthesia would not be a valid reason to exempt one from this potentially lifesaving procedure.<sup>51</sup>

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rate of 8.2 deaths per million, or approximately one in 122,000, but of the 2,211 deaths included in this study, in 241 cases (34 per year), anesthesia complications were the underlying cause and in 1,970 cases (281 per year), it was a contributing factor but not the underlying cause. Even assuming these higher statistics, the Halakhah would view the risks of anesthesia as negligible. See Gouhua Li, et al., "Epidemiology of anesthesia-related mortality in the United States, 1999-2005," *Anesthesiology* 100:4 (April 2009): 759-65. This article also notes that in the years 1948-1952, when mortality rates were first studied, the death rate was 64 per 100,000, which at the time was more than twice the mortality attributable to poliomyelitis.

49 See footnotes 37 and 38. See also the report on "Halachic Issues in the Determination of Death & in Organ Transplantation" of the Vaad Halacha of the Rabbinical Council of America, June 2010. As mentioned above, R. Hershel Schachter also accepts this concept, but is concerned with potential risk factors. At the same time, he argues that the determination of these factors is a medical matter and not a rabbinic one.

50 See *Nishmat Avraham, Even Ha-Ezer* 80:1.

51 Written communication with this author, March 2012.

### **Peripheral Blood Stem Cell Donation (PBSC)**

Peripheral Blood Stem Cell donation is a simpler way to collect blood-forming cells for transplantation. The same blood forming cells that can be collected from the bone marrow are also found in the circulating (peripheral) blood. However, ordinarily there are only small numbers of these cells circulating in the blood. In order to facilitate the harvest of these cells from the blood itself, the potential donor receives injections of the drug filgrastim (a growth factor medication) to move more blood-forming cells out of the marrow and into the bloodstream.<sup>52</sup> These injections are given for four days immediately preceding the donation; on the fifth day, the final dose is given immediately prior to the donation of the blood cells. The blood is removed from the donor through a process called apheresis, whereby a needle is placed in one arm and the blood is passed through a machine that separates out the blood-forming cells. The remaining blood is returned to the donor through the other arm, similar to the procedure used in the procurement of platelets.

Unlike bone marrow transplants, this is a non-surgical procedure, avoiding both the significant pain and the other risk factors associated with the older process. While there are some side effects from this process, they result more from the preparation for donation than from the donation itself. Donors may experience headaches, bone pain, or muscle aches, similar to those accompanying a cold or flu, during the several days prior to blood collection. These are possible side effect of the filgrastim injection and they disappear shortly after the donation. Other side effects may include nausea, trouble sleeping, and

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52 Filgrastim is commonly marketed as Neupogen. "It is used for preventing infections in people undergoing chemotherapy or receiving bone marrow transplants. It is also used to stimulate the release of more stem cells in the blood to make stem cell collection and transplantation more successful. Filgrastim is approved for use in both adults and children. Off-label filgrastim uses may include the treatment of aplastic anemia and neutropenia caused by non-chemotherapy medications." Kristi Monson, PharmD; Arthur Schoenstadt, MD, eMedtv.

fatigue. Less than 1% of donors have an allergic reaction to filgrastim, which may include skin rashes or shortness of breath.

Unlike in the therapeutic use of filgrastim, in the case of PBSC, it is only used for a brief, five-day period. Nevertheless, the question remains regarding any possible long-term effects related to the short-term use of filgrastim. An early study of 200 individuals who had received filgrastim in preparation of PBSC found that two of them developed acute myelogenous leukemia (AML) 4-5 years following filgrastim exposure. However, it is important to note that the recipients of the bone marrow from these two donors were their siblings, each of whom were suffering from acute myelogenous leukemia.<sup>53</sup>

National Marrow Donor Program donor consent

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53 Dennis L. Confer, John P. Miller, "Long-term safety of filgrastim (rhG-CSF) administration," *British Journal of Haematology* 137:1 (April, 2007): 76-80. They write: "It is well known that siblings of persons with leukemia have a 2-5-fold increased annual incidence of leukaemia (Pottern et al, 1991; Shpilberg et al, 1994; Rauscher et al, 2002). In some families, multigenerational occurrence of leukaemia, in the absence of any known syndrome, e.g. Fanconi anaemia, suggest direct inheritance of susceptibility genes (Segel & Lichtman, 2004). Given these patterns, the contribution of filgrastim exposure to the development of acute leukaemia within families remains speculative. Documenting the safety of filgrastim as a mobilizing agent for PBSC donation has long been a matter of importance for the transplant community, particularly in the context of donation made by volunteer, unrelated adult donors. Since 1997, the NMDP has maintained an Investigational New Drug (IND) application accepted by the Food and Drug Administration for manufacture of PBSC products from unrelated donors. Filgrastim is administered for PBSC mobilization at a total dose of c. 10ug/kg donor weight per day for 5 days. Under the IND protocols, every donor provides informed consent for the research, which includes agreement for the perpetual annual follow-up. Among 4,015 donors who have passed the first anniversary of their PBSC donation, we have accumulated 9,785 years of follow-up (range from 1-9 years with 897 donors equal or more than 4 years). Twenty cases of cancer have been reported, occurring in various organ systems, consistent with the age-adjusted US incidence of cancer in adults and in support of the applicability of data obtained from the NMDP follow-up (Ries et al, 2006). There have been no reports of leukaemia in this donor cohort, which US statistics suggest should comprise 9% of all malignancies in this age group."

forms approved by the Institutional Review Board contain the following information:

Normal individuals are at risk for developing cancer, including leukaemia, lymphoma or other blood diseases throughout their lifetime. It is unknown whether filgrastim increases or decreases an individual's risk of developing cancer. The data being collected during follow-up will help establish if there are any positive or negative long-term effects from receiving filgrastim. Based on limited long-term data from healthy people who have received filgrastim, no long-term risks have been found so far.<sup>54</sup> At this point, it is correct to say that any suggestion that the short term use of filgrastim has any long term side effects is without any basis, statistical or anecdotal. Any data that does exist regarding this matter indicates that there are no increased risks whatsoever.

## Testing

While a significant number of bone marrow donors are family members who are tested specifically in order to aid their loved ones, far more donors are unrelated volunteers (approximately 70%). Typically, these donors are found in databases assembled as a result of community testing drives, in which large numbers of people provide a small DNA sample through a swab on the inside of their cheek. The data is evaluated and stored for future use. The process is simple, painless, and there is no fee to the donor (although the process can cost up to \$100).

The chance of any given person who is tested actually becoming a donor is extremely small (1 in 20,000, or 0.005%). Accordingly, even when there is a critically ill patient (on whose behalf the marrow drive is being held), it would not be deemed a case of *holeh mesukan befanenu*. As such, all opinions would agree that being tested cannot be ruled obligatory.<sup>55</sup> However,

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<sup>54</sup> Ibid.

<sup>55</sup> It should be noted that R. Moshe Feinstein similarly ruled (*Iggerot Moshe, Yoreh De'ah* 2:151) that there is no obligation for a person to study medicine

it must be borne in mind that it is only through this “long-shot” process that any of the non-related volunteer donors can be found for this lifesaving procedure. Given the gravity of the situation when there is a patient in need, even lacking any formal obligation, it is highly meritorious for healthy individuals of the proper age to be tested.

Accordingly, it would be most proper for the organized Jewish community to encourage and facilitate bone marrow testing so that when there are patients in need, appropriate matches can be found. This includes providing locations for testing drives to take place, publicity and encouragement by synagogues, schools, and community organizations, and, perhaps most importantly, active rabbinic encouragement. Additionally, financial resources are needed to cover the cost of approximately \$100 needed for each test.

Related to this is the possible matter of appropriate compensation for donors. As mentioned in the introduction, by law, organ donors may not be paid for their organs, and in practice, they also do not pay any of the costs involved in the donation. All medical procedures are covered by the National Bone Marrow Donor Program (NMDP) or by the donor’s medical insurance, including travel and other non-medical costs. The only potential cost to the donor is time taken off from work. Typically, the entire process, travel time included, involves about 30 to 40 hours, equaling approximately one week of work. In cases in which the costs of lost work or child

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in order to become a doctor or a lifeguard in order to save lives. The obligation to save lives only exists when a person presently has the ability to do so. In the case of bone marrow testing, when matches are so statistically rare, the words of R. Feinstein are even more true; while every doctor has reason to expect that he will save lives once he is in practice, most of those tested will never become bone marrow donors. Nevertheless, just as there is clearly a major societal need that there should be properly trained doctors, lifeguards, and the like, so too there is clearly a need for bone marrow donors. It should also be noted that since marrow testing only involves a brief, one-time test, one might argue that there is a stronger obligation than in the cases of studying medicine or lifeguarding, which involve extensive education and/or training.

care might prevent bone marrow donation, barring legal impediments, it would be most appropriate for the community to help defray these expenses as well. Additionally, given the recent court ruling permitting payment to PBSC donors, were payments to be a determining factor in a potential donor's willingness to donate, this too might be a good use of communal funds.

## **Conclusion**

As has been demonstrated in this paper, a very strong case exists to argue that marrow donation, both the surgical removal of bone marrow and PBSC, are halakhically obligatory once a match has been established. This is indeed the opinion of a number of leading *Posekim*, some having ruled so directly and others by implication. Even though this ruling is not accepted by all *Posekim*, it is quite likely that the matter should still be viewed as no less than a *safek de-oraita* (a doubt about a matter of Torah law) which by definition would mandate following the stricter possibility.

Perhaps more compellingly, this is literally the chance of a lifetime for both the recipient as well as the donor. For the recipient, these bone marrow cells are likely the difference between life and death; for the donor, it is his opportunity to do the "most important" *mitzvah* – to save a life. Aside from those in the medical or related fields, it is almost unheard of that a person has the chance not only to "not stand by the blood of his brother," but to provide blood for his brother. The risks that come along with being a donor are statistically negligible, and in almost all cases, the pain and discomfort are short lived. To refrain from saving a life out of fear of this pain or these limited risks would be to miss an opportunity that rarely presents itself. To paraphrase R. Akiva as he awaited martyrdom at the hands of the Romans, "All my life I have spoken about the great value of this action. Now that the opportunity has come before me, how can I pass it up?!"