Life Expectancy and The Birth-Injured Plaintiff

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Nowhere is the effect of the MICRA[1] limitation on damages more harshly felt than in cases involving those birth injuries which cause profound brain damage, usually from insufficient oxygen reaching the brain of the fetus during labor and/or delivery. Many of these children develop cerebral palsy with spastic quadriplegia, rendering them largely unable to function. These children, therefore, need lifetime care, the cost of which can run into tens of millions of dollars. MICRA limits general or non-economic damages to $250,000.00[2], a figure that in most cases will not even cover attorneys' fees and costs. Therefore, it is imperative that the lawyer handling such a case maximize the special or economic damages recovered in order to insure that sufficient funds exist to care for the child during his or her lifetime. Too often, lawyers neglect to hire appropriate experts to address the issue of damages in such cases.

In a birth injury case, the plaintiffs' lawyer typically hires an expert to develop a life care plan, identifying the services that the child will need and estimating their annual cost. To establish life expectancy, these lawyers usually rely on the testimony of a physician, often the treating pediatrician or pediatric neurologist. However, many of these medical experts grossly underestimate how long a severely disabled child is likely to survive. This could result in an inadequate verdict. While infantile cerebral palsy resulting from birth trauma does impact life expectancy, most physicians are ill-equipped to address these issues authoritatively. In order to accurately predict life expectancy, and thereby maximize the likelihood that appropriate economic damages will be recovered, the plaintiffs' lawyer must rely on the expertise of both a medical expert and a statistician. This is the focus of this article.

WHAT IS LIFE EXPECTANCY?

Life expectancy represents the mean or "expected" number of years remaining for a typical member of the population being studied. As a simple example, if a third of the population lives one more year, a third live two more years, and a third live nine more years, then the life expectancy is simply $(1+2+9)/3 = 4$. Statisticians and actuaries use life tables and other established methods to compute life expectancies. One of the difficulties attorneys face when relying on a medical expert to predict life expectancy is understanding what, if any, methodology the physician is employing to make the prediction. Generally, because doctors are not experts in actuarial issues, they rely on medical literature or their own experience. Either approach poses serious problems and is unlikely to result in a statistically accurate figure.

Two articles published by Eyman and Grossman in 1990 and 1993 are often cited on the issue of life expectancy of the profoundly handicapped.[3] Based largely on these articles, defense medical experts routinely predict that children with severe disabilities arising from birth injuries generally do not survive more than five or six years. The methodology employed by Eyman and Grossman in reaching the conclusions set forth in the 1993 article has been demonstrated to be incorrect.[4] However, the error in the 1990 article is even more glaring and has not been widely appreciated or previously noted in the literature. In that article, the authors mistakenly utilized mortality rates that are too high by a factor of about three, which resulted in grossly underestimating life expectancies. Defense lawyers, however, continue to rely on and cite these articles in an effort to minimize damages. Because of its technical nature, the error is unlikely to be detected by physicians or plaintiffs' lawyers casually perusing the literature for information about life expectancy in cases involving birth injuries.

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Testimony that a severely handicapped five-year-old child likely will not survive beyond his tenth birthday, if unchallenged, can have disastrous consequences because, in fact, children with cerebral palsy and quadriplegia actually have a statistical life expectancy of about 40 years. A jury verdict adequate to provide optimal care for a child to age ten will be woefully inadequate to provide the lifetime care which probably will be necessary.

Physicians who rely on their own personal experience in treating handicapped patients are likely to offer opinions which are equally suspect. A neonatologist who routinely sees babies with severe brain injuries may tend to overstate the death rate based on her experience that many of

these babies do not survive. While it is true that mortality rates are significantly higher for infants under one year of age, the neonatologist's experience will not correlate with the statistical data available, especially for older children. The experience of a pediatric neurologist may also be skewed: once a diagnosis of cerebral palsy is made, a therapy regimen is established, and the child's medical condition is stabilized, the neurologist may not see the child again except in cases of medical emergency. Their perception of the mortality rates for such children may reflect the fact that they rarely see the substantial percentage of those patients who either do not require or will not benefit from continued treatment.

On the other hand, a physical therapist who specializes in treating children with cerebral palsy may have treated hundreds of children over an extended period of time. Statistically, most of those patients will survive to adulthood. Therefore, the physical therapist's opinion regarding life expectancy is likely to be both more accurate and optimistic.

Such anecdotal "evidence" should be viewed with suspicion both by the lawyer and by the trial court judge. A motion in limine may be appropriate in an effort to limit such testimony if it does not meet a minimal level of reliability.

WHAT FACTORS INFLUENCE LIFE EXPECTANCY IN THE BIRTH INJURY CASE?

The most significant determinant of life expectancy is age. However, there is also substantial medical literature regarding other factors which influence life expectancy for children with cerebral palsy, as well as persons with traumatic brain injury and spinal cord injury. The main factors seem to be the presence or absence of basic functional skills such as mobility and feeding. Other factors, such as cognitive ability (e.g. verbal and non-verbal communication), tend to play a lesser role. (See Table 1.) It is sometimes possible to use the medical literature for a rough prediction of a child's chances for survival based only on a few of the factors which correlate to survival. For purposes of litigation, however, an accurate and personalized estimate of life expectancy should be obtained. This requires an actuarial analysis of the child's full profile of mobility and other skills, and reference to a data base with the combined experiences of many thousands of persons with disabilities. From this information, a life table can be devised specifically for persons having conditions comparable to the plaintiff from which a reliable projection of life expectancy can be made.

Table 1

Group[1]	Additional Years[2]
Quadriplegic, unable to lift head, fed by gastrostomy tube	13
Not quadriplegic, unable to lift head, fed by gastrostomy tube	20
Quadriplegic, able to roll over	47
Not quadriplegic, able to sit	60
U.S. general population	71

[1] All figures refer to a 2-year old male.
[2] These figures are average for the group.

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While medical professionals play a role in calculating life expectancy, that role should be limited to providing an accurate and complete picture of the child's medical condition and functional abilities and limitations. That information must then be analyzed by an actuary or statistician with access to an appropriate data base for preparation of a life table which will yield the most accurate information about the statistical life expectancy for the individual child.[5]

The Life Expectancy Project at UC Riverside has a database of nearly 200,000 Californians with developmental disabilities, including some 47,000 persons of all ages with cerebral palsy. This data base makes it possible to determine the life expectancy of a person with a very specific profile of skills and medical conditions. Table 1 demonstrates the wide variation which may occur in evaluating life expectancy based on functional ability in infants with cerebral palsy.

CROSS-EXAMINATION OF THE DEFENSE EXPERT ON LIFE EXPECTANCY

Being able to effectively cross-examine the defense expert on the issue of life expectancy is as important as retaining the appropriate expert witness on behalf of the plaintiff. From a tactical point of view, it is advisable to take the defense expert's deposition first, whenever possible. If, as is often the case, the "expert" is relying on faulty or incomplete data, it is preferable to establish that before defense counsel can be educated in that regard by plaintiff's expert. Many lawyers do not critically evaluate the basis for the expert's testimony on technical issues such as life expectancy and on statistical issues are often content to rely on what they have been told by their experts.

At the time the deposition of the expert is noticed, counsel should do a request to produce all documents (1) on which the estimate of life expectancy has been made, (2) which reflect how the life expectancy calculation was made, (3) any literature relied upon by the expert in making the calculation, and (4) copies of any reports which reflect the expert's opinions. A request for prior depositions in which the expert has given testimony about life expectancy would also be advisable, although in practice this information is rarely provided. If the expert is known to have testified about this issue on other occasions, a jury verdict search in advance of the deposition might be worthwhile as it may be possible to obtain transcripts from plaintiffs' lawyers who previously have deposed the expert.

At the deposition, establish the expert's credentials. What, if any, training has the expert had in statistical analysis? Can the expert even define "life expectancy"? Can the expert compute it in a simple case such as the example used above using one, two and nine years to obtain the correct answer, which is four years? What literature or database is the expert relying on in providing the opinion? To what extent, if any, is the expert relying on the Eyman articles? If so, is the expert familiar with any literature which is critical of the

conclusions expressed by Eyman, et al.?

If the expert is relying on personal experience, how many patients has the expert seen with precisely the same conditions as the plaintiff and for how long did the expert generally follow those patients? What statistical method was used to derive a life expectancy from the expert's data? Would the expert defer to a statistician on the issue of life expectancy?

If the expert is not relying on a personalized life table as the basis for the opinion, it is important to determine whether the opinion reflects "mean survival time" or "median survival time." Life expectancy, as noted above, is the mean or average. By contrast, median survival time is defined as that time at which half of the population will still be alive. In the population described in the example, the median survival time for those living one, two and nine years, the median survival time is two years rather than four. This example illustrates an important point: the median survival time for high risk children may be substantially less than their life expectancy. Attorneys representing birth injured plaintiffs must understand this.

Once the deposition is completed, consider whether it may be possible to exclude the testimony of the witness on the ground the expert is not qualified to testify as an expert in statistical analysis and/or that the opinion itself is purely speculative. While trial judges are generally inclined to admit expert testimony[6] and have broad discretion to do so, that discretion is not absolute.[7] Therefore, although it may be difficult to persuade the trial judge that a physician who has experience treating patients such as the plaintiff and/or has reviewed the literature does not have the requisite expertise to voice an opinion on the issue of life expectancy, it is an issue which should be preserved in the event of an appeal. It is not necessary to raise an objection to the expert's qualifications to testify based on Evidence Code § 720 at the time of deposition.[8] Such an objection should, however, be asserted in an in limine motion before trial or during voir dire examination of the expert at trial.

Whether the issue should be raised in limine is a strategic decision for you to make. To the extent that your expert can frame the issue on direct examination as one involving expertise in statistics and not medicine (except to the limited extent discussed above), you may be better able to persuade the trial judge that the medical expert's testimony should be limited to identifying those medical issues which may impact survival. In that case, it may be wiser to wait and raise the issue when the expert is ready to take the stand.

Although a trial judge may be reluctant to preclude the expert's testimony on the ground that the expert is not "qualified" to render the opinion, it may still be possible to exclude or limit the defense expert's testimony on the ground that basis for the opinion is not "reliable" as required by Evidence Code § 801 subdivision (b). Section 803 directs the trial court to exclude opinions based in whole or significant part on material that is not a proper basis for the opinion. If the expert's deposition testimony raises questions about the reliability of the information on which the opinion about life expectancy is based (e.g., the expert relied on the Eyman articles or only on his experience with a small number of patients over a limited period of time), it would be wise to raise the issue in an in limine motion. Even if the motion is denied, it will begin the process of educating the trial judge about the suspect nature of the testimony and may make the judge more receptive to a subsequent objection based on the qualifications of the defense expert.

If the judge does permit the defense expert to testify on the ground that lack of expertise goes to the weight to be afforded the testimony by the jury, it should be relatively easy to impeach the expert's credibility based on the deposition testimony. Sufficient time should be spent consulting with your expert statistician or

actuary in advance of trial so that you have a working knowledge of these technical issues.

In order to reinforce the concept that a medical doctor is not the appropriate expert to address life expectancy issues, in closing argument you may want to analogize to life insurance, a subject about which the jury is likely to be more familiar. When an application for life insurance is made, the company does not ask a doctor how long they think the applicant will live or at what age they think the applicant will die. The company requires a medical examination to assess various risk factors which are known to be predictive of life expectancy. The results are examined by actuaries or statisticians who use the risk profile to assess the prospects for survival and it is on that basis that a premium is calculated. If the defense really wanted to provide the jury with an accurate picture of the potential life expectancy of this severely injured plaintiff, it can be argued, it would have produced an expert qualified to address the issue. It failed to do so. The defendant, having caused the injury, the argument would continue, now hopes to deny the family adequate funds to insure that they can provide optimal care for the lifetime of the child. Defense counsel will be hard-pressed to respond to such a charge.

CONCLUSION

The life insurance analogy is an apt one. The same approach used by insurance companies to assess life expectancy in applicants should be adopted in evaluating damages in birth injury cases, in which the substantial cost of future care for severely handicapped children is at stake. It is foolish for the plaintiff's lawyer to rely exclusively on the testimony of a physician on such a critical issue. Working closely with a statistician with access to a credible database and who understands the litigation process can be an invaluable asset for lawyers hoping to maximize recovery for these most vulnerable young clients and their families. ■

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[1] Medical Injury Compensation Reform Act, passed in 1975 which, among other provisions, placed a cap on general, non-economic damages for plaintiffs injured as a result of medical negligence regardless of the nature or extent of the injury.

[2] Civil Code § 3333.2(b).

[3] Eyman RK, Grossman HJ, Chaney RH, Call TL. The life expectancy of profoundly handicapped people with mental retardation. New Eng J Med 1990; 323:584-589. Eyman RK, Grossman HJ, Chaney RH, Call TL. Survival of profoundly disabled people with severe mental retardation. Am J Diseases Children 1993; 147:329-336.

[4] Strauss, DJ. Life expectancy of children with cerebral palsy. The Lancet 1997; 349:283-284. Strauss, D.J. Letter. Ped Neurology 1998; 19:3.

[5] While reference is made to children who have suffered birth injuries resulting in brain damage, the same analysis can and should be made for individuals with disabilities at any age, although the data bases for certain populations may not be as extensive and, therefore, predictions may be less accurate.

[6] *Miller v. Los Angeles County Flood Control District* (1973) 8 Cal.3d 701, 106 Cal.Rptr. 1

[7] *Buckwalter v. Airline Training Center* (1982)134 Cal.App.3d 547, 184 Cal.Rptr. 659

[8] *See* Code of Civil Procedure §2021(c)(1).