may be important in predicting later neurodevelopmental outcome.

Finally, the authors actually found no significant difference in the Mental Development Index between the two groups. It was only after excluding babies with neuromotor impairment that a difference between the groups was found, but this removed most of the infants with an abnormal neurodevelopmental outcome. If aluminum is indeed an important cause of neurotoxicity, shouldn't the authors be concerned with all types of neurologic impairment?

Given all these factors, then, the case for aluminum neurotoxicity in these infants seems weak.

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The authors reply:

To the Editor: Undoubtedly, there were other sources of aluminum in the preterm infants we studied, but they should have been randomly distributed between the two groups. Measurements of serum or urinary aluminum would have been interesting, but they were not made. We did collect a considerable amount of social, demographic, antenatal, perinatal, and neonatal data. Serial cranial ultrasound examinations were done to assess the occurrence of intraventricular hemorrhage and periventricular leukomalacia, as proxies for perinatal neurologic injury, and in the data analyses, the duration of mechanical ventilation was used as a proxy for the severity of illness. These factors, as expected, were evenly distributed between the two groups, as was the number of infants with impaired neuromotor function.

We expected that some infants would receive very little intravenous feeding and that this would blunt the comparison between groups. We therefore preplanned analyses stratified according to the duration of intravenous feeding. The effect of aluminum exposure was most marked in the children who had received intravenous feeding for 10 or more days. In that subgroup the value for the Bayley Mental Development Index was lower in the infants who had received the standard solutions than in those who received aluminum-depleted solutions, both in the groups as a whole and after the exclusion of the infants with neuromotor impairment.

We believe that our results indicate that preterm infants are at risk for developmental delay from contamination of intravenous feeding solutions with aluminum and that efforts to reduce aluminum exposure should continue.

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Physician-Assisted Death and Pharmacy Practice in the Netherlands

To the Editor: Although the opinions of pharmacists on euthanasia and physician-assisted suicide have been examined,[1] there is little information about their practices. Between April and September 1994, we surveyed attitudes and practices with respect to euthanasia and physician-

TABLE 1. EXPLICIT REQUESTS BY PHYSICIANS TO DISPENSE DRUGS FOR EUTHANASIA OR PHYSICIAN-ASSISTED SUICIDE IN COMMUNITY PHARMACIES (1991–1993) AND HOSPITAL PHARMACIES (1993) IN THE NETHERLANDS.

VARIABLE	COMMUNITY PHARMACY (N=396)	HOSPITAL PHARMACY (N=52)
	no. (%)	
Received one or more requests to dispense drugs	309 (78)	44 (85)
No. of requests in study period	1135	182
No. of requests honored	1066	175
Drugs dispensed*		
Barbiturates	150	8
Muscle relaxants	34	
Opioids	10	
Insulin	2	
Barbiturates plus muscle relaxant	365	98
Benzodiazepines plus muscle relaxant	112	10
Barbiturates plus opioids	24	2
Muscle relaxant plus opioids	15	
Barbiturates plus orphenadrine	15	1
Muscle relaxant plus ketamine	5	
Benzodiazepines plus opioids	3	1
Barbiturates plus benzodiazepines	1	
Combination of three or four drugs	41	16
Concordance of honored requests with guidelines of the Royal Dutch Pharmaceutical Association†		
Pharmacist was notified of the patient's condition	811 (93)	130 (87)
Pharmacist received a written request	638 (74)	116 (79)
A pharmacist colleague was consulted	186 (21)	10 (7)
Drugs were handed personally to the physician	857 (98)	130 (86)
Pharmacy technicians were not involved in preparation or dispensing of the drugs (or both)	822 (94)	105 (69)

*Responses to this question were received for 73 percent and 78 percent of the cases of honored requests in community and hospital pharmacies, respectively.

†Responses to these questions were received for 83 percent and 87 percent of the cases of honored requests in community and hospital pharmacies, respectively. Not all the guidelines are listed.

assisted suicide in community and hospital pharmacies in the Netherlands. Under Dutch legislation euthanasia and physician-assisted suicide are technically crimes, but through an amendment to the Burial Act physicians are granted immunity from prosecution if they adhere to certain conditions.[2] The Royal Dutch Pharmaceutical Association has issued guidelines for pharmacists who receive requests to dispense drugs for euthanasia or physician-assisted suicide. The guidelines, however, have no legal status.

Anonymous questionnaires were sent twice to a random sample of 50 percent (n=755) of all community pharmacies and to all 101 hospital pharmacies in the Netherlands. The response rates were 52 percent and 51 percent, respectively. The second mailing yielded 12 percent of all responses. A comparison of the responses obtained from the first and second mailings and a comparison of the respondents from community pharmacies with all Dutch community pharmacists with respect to age, sex, province, and size of the community did not show significant differences.

Most of the respondents from the community pharmacies agreed with the concept of euthanasia (94 percent) and physician-assisted suicide (91 percent) and would dispense drugs for these purposes (95 percent). Furthermore, 44 percent responded that these activities should remain subject to criminal law. A majority (71 percent) of the hospitals had official guidelines for dealing with requests; in 8 percent these activities were officially not allowed.

Data on practical experiences with euthanasia and physician-assisted suicide in community and hospital pharmacies are given in Table 1. When the data were extrapolated to all pharmacies, there were 1691 instances in which drugs were dispensed for euthanasia and physician-assisted suicide per year. This number is substantially lower than the number of cases reported by van der Maas et al. (2700 cases in 1990[3] and 3600 cases in 1995[2]).

Although we cannot rule out response and recall bias, the main reason for the difference in values may be that physicians often do not inform a pharmacist — for example, when they have not notified the coroner about a case of euthanasia. This happens in approximately 59 percent of the cases of physician-assisted death in the Netherlands.[4] The choice of drugs for euthanasia generally followed published guidelines that recommend the combination of a barbiturate and a muscle relaxant given parenterally and a barbiturate mixture given orally.[5] The combination of a benzodiazepine and a muscle relaxant, which was also often prescribed, is problematic. The dose of benzodiazepine needed to induce a narcotic state varies considerably among patients.[5]

In conclusion, most of the respondents to our survey were supportive of euthanasia and physician-assisted suicide and were prepared to fill prescriptions written for these purposes.

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