Published in final edited form as:

Pediatrics. 2009 January ; 123(1): 399–406. doi:10.1542/peds.2008-0712.

Childhood Obesity and Medical Neglect

Todd Varness, MD, MPH^a, David B. Allen, MD^a, Aaron L. Carrel, MD^a, and Norman Fost, MD, MPH^{a,b}

^aDepartment of Pediatrics, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin

^bDepartment of Bioethics, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin

Abstract

The incidence of childhood obesity has increased dramatically, including severe childhood obesity and obesity-related comorbid conditions. Cases of severe childhood obesity have prompted the following question: does childhood obesity ever constitute medical neglect? In our opinion, removal of a child from the home is justified when all 3 of the following conditions are present: (1) a high likelihood that serious imminent harm will occur; (2) a reasonable likelihood that coercive state intervention will result in effective treatment; and (3) the absence of alternative options for addressing the problem. It is not the mere presence or degree of obesity but rather the presence of comorbid conditions that is critical for the determination of serious imminent harm. All 3 criteria are met in very limited cases, that is, the subset of obese children who have serious comorbid conditions and for whom all alternative options have been exhausted. In these limited cases, a trial of enforced treatment outside the home may be indicated, to protect the child from irreversible harm.

Keywords

obesity; ethics; child neglect; child abuse

The incidence of severe childhood obesity is increasing rapidly and with it the occurrence of serious comorbid conditions.^{1,2} When families cannot or will not follow through with steps needed to decrease the impact of their child's obesity, the following question arises: does such noncompliance constitute reportable child neglect and consideration of coercive state intervention?

Two cases illustrate this dilemma. In 2007, the British popular press reported the story of 7-year-old Connor McCreddie, a boy who weighed >200 lb and could not walk to school because of his weight. Authorities threatened to remove Connor from his home if his mother was not able to follow the doctors' recommendations for controlling his weight. Responding to this and other similar cases, the British Medical Association debated a resolution that called for parents of obese children <12 years of age to be charged with neglect. Advocates for the resolution argued that the threat to a child's health resulting from obesity, similar to

Copyright © 2009 by the American Academy of Pediatrics. All rights reserved.

Address correspondence to Todd Varness, MD, MPH, Department of Pediatrics, University of Wisconsin, H4/4 Clinical Science Center, 600 Highland Ave, Madison, WI 53792-4108. tvarness@uwhealth.org.

The authors have indicated they have no financial relationships relevant to this article to disclose.

Reprints Information about ordering reprints can be found online: <http://www.pediatrics.org/misc/reprints.shtml>

undernutrition, justified the intervention, whereas opponents of the resolution called the proposal “the maddest idea” and “bonkers.”³

At our institution, a 16-year-old female patient was admitted to the ICU with respiratory failure requiring intubation and tracheostomy. She weighed 440 lb (BMI: 72 kg/m²) and had gained 200 lb over 2 years. She had hypertension, insulin resistance, and nonalcoholic steatosis of the liver. Because of concern regarding lack of parental oversight of her weight problem, an ethics consultation was obtained to evaluate the possibility of medical neglect.

Cuttler et al⁴ addressed important ethical issues regarding obesity in adolescence, including the involvement of the patient in consent to intensive treatment and concerns about access to potentially effective therapies. In this article, we address another ethical question not discussed previously, that is, under what circumstances is coercive state intervention warranted for obesity in childhood and adolescence? We review the medical consequences of severe childhood obesity, explore the criteria that might warrant a charge of medical neglect, and determine whether cases of childhood obesity with a high probability of long-term morbidity constitute medical neglect and warrant removal from the home. We contend that, in limited cases, a charge of medical neglect and a trial period of removal from the home may be warranted when serious comorbid conditions are present and when all reasonable alternative options have been exhausted.

WHAT IS SEVERE CHILDHOOD OBESITY?

The terms used to describe varying levels of obesity have differed over time and according to source. In this article, overweight refers to children with BMI between the 85th and 95th percentile for age and gender, obese refers to children with BMI of >95th percentile, and severely obese refers to children with BMI of >99th percentile² (Fig 1; the marked added weight of 99th versus 95th percentile should be noted). Finally, we use the term “obesity with comorbid conditions” to refer to children with diseases that are secondary to obesity.

The prevalence of overweight and obese children has increased,^{5,6} as have the health consequences related to obesity (hypertension, impaired glucose tolerance, hyperlipidemia, orthopedic problems, polycystic ovarian syndrome, and psychosocial distress).^{1,7–10} These children are at increased risk of remaining overweight as adults,^{8,11} and adult obesity is associated with a variety of serious metabolic and cardiovascular morbidities and increased mortality rates.^{12–14}

The prevalence of severe obesity in childhood also is increasing. A recent study estimated that 4% of children and adolescents (~2 million children) in the United States had severe obesity.^{2,15} In that study, children with BMI of >99th percentile had significantly more metabolic and cardiovascular risk factors, and 88% developed adult BMI values of >35 kg/m².² In addition to the common health consequences of obesity, severe childhood obesity is more likely to be associated with serious comorbid conditions, such as obstructive sleep apnea, type 2 diabetes mellitus, pseudotumor cerebri, and hepatic steatosis.^{1,7,16}

WHAT ARE THE CAUSES OF SEVERE CHILDHOOD OBESITY?

Although there are rare monogenic and endocrine causes of obesity, most obesity is multifactorial. Genetic composition confers susceptibility for excess fat accumulation, and environmental factors, such as excess energy consumption and decreased physical activity, exacerbate the tendency toward excess fat accumulation.^{1,10} The final common pathway for obesity, regardless of its cause, is an imbalance of energy consumption versus energy expenditure. As we argue below, the cause of obesity is not helpful in considering a charge of medical neglect.

DOES CHILDHOOD OBESITY CONSTITUTE NEGLECT?

Child neglect typically is defined as the failure of caregivers to seek or to provide necessary medical care, which then places the child at risk of serious harm. An argument for classifying childhood obesity as neglect might apply when the families of affected children fail to seek medical care, fail to provide recommended medical care, or fail to control their child's behavior to a degree that places the child at risk of serious harm, including death.

The threshold for state intervention in cases of medical neglect usually is high, because of respect for autonomy and the psychological stress of removing a child from the home. For competent adults, state intervention is almost universally prohibited, because of respect for individual autonomy (the right to self-determination). Adolescents who are competent are often treated in the same manner as adults, and adolescent autonomy is respected in most situations that do not involve imminent self-harm (including contraception, treatment of sexually transmitted infections, and abortion).¹⁷ In the case of younger children, the high threshold for state intervention may be based on respect for family autonomy, although family autonomy recedes in importance when there is a high likelihood of serious irreversible harm and effective interventions are available.

In any case, the conditions necessary for coercive state intervention should be stringent. In general, removal of a child from the home is justified when all 3 of the following conditions are present: (1) a high likelihood that serious imminent harm will occur; (2) a reasonable likelihood that coercive state intervention will result in effective treatment; and (3) the absence of alternative options for addressing the problem. Therefore, parents of a child with incurable cancer are not considered neglectful if they take their child home without treatment, because there is no available effective treatment. Similarly, if parents of a child with a history of poorly controlled cystic fibrosis implement effective changes in response to visits from a home health nurse, then no charges of medical neglect are warranted. To determine whether severe childhood obesity constitutes medical neglect, it is necessary to assess these 3 criteria.

IS THERE A HIGH LIKELIHOOD OF SERIOUS IMMINENT HARM?

The mere presence of childhood obesity does not predict serious imminent harm. There is a spectrum of risk associated with childhood obesity (Fig 2). At one end of the spectrum (representing the vast majority of cases), the child's excess weight is not associated with a serious comorbid condition during childhood. Although childhood obesity is a risk factor for the development of multiple diseases as an adult,^{1,8} increased risk for adult diseases does not constitute serious imminent harm. At the other end of the spectrum, however, the child's obesity creates high risk of serious imminent harm, which can be reversed or improved with weight loss. Conditions include severe obstructive sleep apnea with cardiorespiratory compromise, uncontrolled type 2 diabetes, and advanced fatty liver disease with cirrhosis.^{1,7}

Like other conditions with a spectrum of severity (eg, substance abuse), it is difficult to determine when a sufficiently high likelihood of serious imminent harm is present. Another variable to be considered is the potential for reversing or reducing the risk of harm. Several conditions associated with obesity (eg, impaired glucose tolerance) are serious but not imminent, and the risk can be reduced when the child becomes an adult. However, some conditions (eg, advanced hepatic fibrosis) lead to harm that cannot be reversed when the child becomes an adult and can make autonomous decisions. In these cases, a stronger argument for removal from the home can be made, even if the harm is not technically imminent.

There is no clear threshold level of childhood obesity (overweight, obese, or severely obese) that automatically predicts serious imminent harm. Rather, it is the presence of serious comorbid conditions (at any obesity classification) that is relevant for assessment of the criteria of serious imminent harm. In this article, we distinguish 4 different groups of children on the basis of the presence, significance, and nonreversibility of obesity-related comorbid conditions (Table 1), and we suggest that reference to these categories may be helpful for determining whether neglect should be considered.

Might obese children without comorbid conditions develop subclinical disease that is not reversible at a later date? Numerous studies have shown that obese children are at increased risk for cardiovascular disease as adults, but the great majority of studies did not control for adult BMI,⁸ which is a confounder that is critically relevant to the question of reversibility of risk. For example, increased carotid artery intima-media thickness is a marker of generalized atherosclerosis and is associated with increased risk of poor cardiovascular outcomes. Obese children who became obese adults had increased carotid artery intima-media thickness, but obese children who were not obese as adults did not have increased intima-media thickness.¹⁸ A similar study showed that obese children who became nonobese in adulthood had intima-media thickness values comparable to those of subjects who were consistently nonobese.¹⁹ Although it is true that childhood obesity can lead to adult obesity, childhood obesity itself does not seem to lead to irreversible changes that are significant enough to mandate coercive state intervention.

ARE THERE EFFECTIVE INTERVENTIONS FOR CHILDHOOD OBESITY?

With regard to a charge of neglect for failure to control weight, the requirement for effective interventions is highly relevant because, in contrast to other reasons for state intervention (eg, child abuse), it is reasonable to doubt whether effective weight control will occur in any setting. In other words, is it truly reasonable to demand that families be able to achieve effective weight loss for their children? In addition, if it has been impossible for a family to reduce weight, what evidence is there to suggest that removal from the home would be more successful?

Lifestyle Interventions

Lifestyle interventions for obesity typically include dietary modifications and increased physical activity; more-intensive lifestyle interventions also include counseling or other behavioral modification efforts. Diet and exercise are the cornerstones of treatment for obesity and related complications. In theory, lifestyle interventions are simple and safe, and a sustained negative energy balance (expending more energy than is consumed) does indeed result in meaningful weight loss. Unfortunately, these interventions frequently are judged to be ineffective, if the goal is complete sustained resolution of obesity.^{7,8,20} However, failure to achieve sustained resolution of obesity does not mean that lifestyle interventions are without merit. Several high-profile diabetes prevention trials have shown that lifestyle interventions can reduce the incidence of type 2 diabetes in at-risk adults.^{21,22} For obese children, some clinical trials have shown improvement with diet, exercise, and/or behavioral interventions.^{8,23} Typical behavioral weight loss trials with overweight school-aged children result in 10% to 20% reduction in the percent overweight.⁸

In individual cases of obesity with serious comorbid conditions, lifestyle interventions can offer a reasonable likelihood of success if 3 important variables are appreciated. First, the setting of the lifestyle interventions is critical for the chances for success. It is unrealistic to expect that all foster families can achieve what the biological families could not. However, hospitalization or placement in group homes or with specifically trained foster families can reasonably be expected to produce successful restriction of energy intake, to achieve some

weight loss, and therefore to reduce the impact of comorbid conditions. Second, the goal of the intervention is not the resolution of obesity but rather modest weight loss sufficient to alleviate the comorbid conditions. The goal need not be a normal-weight child but may be a less-obese child. Third, although population studies have not clearly defined a particular program that can be broadly implemented in a primary care setting to reduce the prevalence of childhood obesity, that does not mean that there is no reasonable chance of reducing the weight of and/or impact of a serious comorbid condition for an individual, severely obese child. In the presence of comorbidities that represent a high probability of serious imminent harm, most people would appropriately pursue treatment that offered a reasonable chance of success, particularly if the treatment had low risk. In summary, although lifestyle interventions have not been highly effective in providing long-term resolution of obesity at a population level, these interventions, in the right setting with appropriate goals, can have significant benefit for a particular obese child with serious comorbid conditions.

Medical and Surgical Interventions

Both medical and surgical treatments typically are reserved for patients with severe obesity and obesity-related comorbid conditions who have experienced failure of less-intensive interventions. Although medications (such as sibutramine and orlistat) can result in moderate short-term reductions in weight, these medications can have significant adverse effects and have not been evaluated in younger children.²⁴

The benefit of surgery for morbidly obese adults is greater than the benefit seen with lifestyle modifications,²⁵ and several recent nonrandomized studies showed not only greater long-term weight loss but also decreased mortality rates for adults who underwent bariatric surgery, compared with those who did not undergo surgery.^{26,27} The outcomes of bariatric surgery for adolescents seem to be similar to those for adult patients.^{28,29} There is still relatively limited experience with adolescents, however, because few centers are performing bariatric surgery for adolescents and the criteria to be considered for surgery are quite stringent.³⁰

In summary, medications and surgery hold some promise but still have a questionable risk/benefit ratio, in both the short term and the long term. Although these may seem to be attractive options for some motivated adolescents with severe obesity, they are not options that are likely to be mandated for a child over the family's objection.

IS THERE AN ALTERNATIVE TO REMOVING THE CHILD FROM THE HOME?

In most cases of obesity, families make a good-faith effort to address the problem when they are made aware of the condition and the potential adverse health consequences. The development of a serious comorbidity can serve as a "wake-up call" for families, prompting full cooperation with intensified medical services. Whenever obesity is detected during childhood, physicians should pursue available nutrition, exercise, and behavioral interventions, as well as referrals to professionals with appropriate expertise, to ensure that medical neglect is an option of last resort.

When local social service agencies and child protective services have been notified of the possibility of medical neglect, the first response should be to pursue less-invasive alternatives, before the child is removed from the home. Multidisciplinary approaches may be used, involving home health nurses, social workers, school nurses, and community-based social service agencies. Mandated behavioral interventions and "weigh-ins" also should be considered. Because of the psychological trauma associated with removal of a child from the home, these alternatives should be exhausted before the child is removed from the home (if the child's condition allows for the pursuit of alternatives).

WHICH CASES OF CHILDHOOD OBESITY MIGHT CONSTITUTE MEDICAL NEGLECT?

When families cannot or will not make an adequate effort to decrease the impact of their child's obesity, what should be done? How should we determine whether a particular case constitutes medical neglect? With the previous analysis of the 3 conditions necessary for medical neglect and the categories defined in Table 1, we can address these questions.

For category 1 (obese children who have no comorbid conditions), the charge of medical neglect would not be justified. The mere presence or degree of obesity, in the absence of comorbid conditions, does not reliably predict a high likelihood of serious imminent harm. Although these children have increased risk for the development of adult diseases, it is difficult to justify violation of individual or family autonomy because something bad might happen, particularly if the child could reverse or reduce this risk when he or she reaches adulthood and assumes responsibility for his or her own health.

For category 4 (obese children who have comorbid conditions that constitute serious imminent harm in childhood), charges of medical neglect might be warranted if all in-home approaches and alternative options to coercive state intervention have been exhausted. In cases in which the child already has a severe comorbidity (eg, obstructive sleep apnea with cardiorespiratory compromise), the risk of severe imminent harm exists. In these cases, there often is effective treatment for the comorbidity itself (eg, bidirectional positive airway pressure therapy). In the setting of severe comorbidities, treatments with reasonable probabilities of success (such as lifestyle interventions) might be justified. Although lifestyle interventions are not 100% effective, in the right settings they might decrease the impact of comorbid conditions. In very limited cases of obesity with comorbidities that represent serious imminent harm in which alternative options have been exhausted, it seems that removal of the child from the home might be warranted to provide the necessary medical and lifestyle treatments.

The middle 2 categories of children are more difficult. For category 2 (obese children who have comorbid conditions that predict serious harm but are reversible after the child reaches adulthood), it seems unlikely that coercive state intervention would be warranted. For instance, although research is ongoing, it seems that most of the risk of cardiovascular disease related to childhood obesity is reversible. Although there may be low likelihood that the child will succeed at weight loss as an adult, there is not a known imminent harm that could justify something as serious as a charge of medical neglect and removal from the home.

For category 3 (obese children who have comorbid conditions that predict serious harm and are not reversible after the child reaches adulthood), a charge of medical neglect might be considered if, for instance, the child showed hepatic fibrosis resulting from nonalcoholic fatty liver disease. In such a case, it might be helpful to ask what the child would want if he or she fully understood that his or her life span was going to be shortened by 30 years as a result of a condition that could be treated effectively. It seems reasonable to assume that the child would be grateful that someone intervened on his or her behalf.

SPECIAL CONSIDERATIONS FOR ADOLESCENTS

Adolescents make independent decisions related to their diet and exercise, and it might be argued that charging the parents with medical neglect would not help the child. If an analogy is drawn to substance abuse, however, then there still may be a rationale for removal of the child from the environment in which the serious harm is occurring. If an adolescent is

engaging in substantial substance abuse (eg, injecting heroin daily) and the parents cannot or will not improve the situation, then intervention (eg, mandatory drug treatment program or hospitalization) may be justified. In the case of severe obesity with life-threatening comorbid conditions, we assert that intervention on behalf of the child is warranted if the child is <18 years of age. Although this age cutoff is dictated primarily by conventional policy and many minors are competent to make some health care decisions, in such cases the burden is on the health care team to prove that the minor is competent and therefore an exception. In other instances in which adolescents are allowed to make autonomous health care decisions (eg, contraception and treatment of sexually transmitted infections), there is wide agreement that such policies promote the interests of the adolescents as well as important public health concerns; neither would be true in the case of adolescents in category 4. Therefore, there is not a compelling reason to overcome the presumption that adolescents require some degree of protection from their immaturity. Opponents may argue that adults commonly make health care decisions that seem not to be in their interests, as perceived by others. However, respect for autonomy depends not only on cognitive skills but also on the assumption that the patient's decisions reflect important, durable, personal values. These factors often are not present for adolescents.

Initial intervention on behalf of an adolescent would allow for more time to determine competence while protecting the child from imminent harm. The clinician also should consider the potential benefit of raising the possibility of a referral because of neglect. Such a discussion might be the tipping point in persuading the parents and the patient that they need to take effective action.

IS THE CAUSE OF OBESITY RELEVANT TO CHARGES OF MEDICAL NEGLIGENCE?

Debate continues regarding whether obesity is a disease or simply the result of personal choices and behaviors. Whatever the cause of obesity in a child, the parents are not absolved of their responsibility to address it. Cystic fibrosis, diabetes mellitus, and cancer are childhood conditions whose cause is genetic or otherwise beyond the control of the family, and failure to care adequately for children with these conditions can be considered neglect. There also are treatments for certain medical conditions that require specific diets (eg, phenylketonuria and galactosemia), which are similar to dietary interventions for obesity; again, failure to implement the diet can be grounds for medical neglect. Parents are responsible for the care of their children, regardless of whether the cause of a medical condition is a behavior, a disease, or an interaction of the 2.

In some cases, contributors to a child's obesity may be poverty (which limits access to healthy foods and space for exercise) and inadequate insurance coverage (which can hinder access to weight loss programs). It may seem unfair to charge these families with medical neglect for their child's obesity. It is important to note, however, that charges of medical neglect should not be moral judgments but rather are a means to protect children from harm. For example, there are parents with significant cognitive limitations who cannot properly mix formula, make medical appointments, or otherwise care for their child in a way that protects the child from harm. The parents are not morally culpable for their inability to provide adequate care; nonetheless, the state has an obligation to protect the child from a life-threatening condition.

WHAT STEPS WOULD BE INVOLVED IN A CHARGE OF MEDICAL NEGLECT?

In the rare circumstance when a physician has pursued all possible alternatives and a child is still at risk of serious harm secondary to obesity, the local child protective services should be notified. If the child's condition allows for the state to consider alternatives to removal of the child from the home, then those options should be pursued. The threat of removal from the home may convey to the parents the seriousness of the child's condition.

In the case of life-threatening obesity or failure of the alternative options, an initial trial outside the home would aim to achieve modest weight loss sufficient to lessen or to eliminate the comorbid conditions. The goal would be not a nonobese child but, rather, a less-obese and healthier child. An initial hospitalization would generally be warranted to treat acute comorbid conditions and to begin implementation of the necessary lifestyle interventions. When the child is safe from imminent harm, he or she could be discharged to home with close supervision or discharged to medical foster care or a group home, which could control access to energy intake, for a defined period (probably 3–6 months) before returning home under close supervision. As is often the case with foster care placement in abuse and neglect cases, removal from the home is likely to concentrate the parents' attention, so that better compliance with life-style changes can be expected when the child returns.

WHAT ABOUT THE PATIENTS PRESENTED ABOVE?

In the case of Connor McCreddie, the local child protective services threatened to remove Connor from his home if his mother did not begin to address his weight more seriously. Faced with this threat, she made a formal agreement with local officials and agreed to implement a strict diet and exercise program for Connor.³¹ Under British law, a formal agreement prevents any further public discussion of the case; therefore, no follow-up information is available. According to the available information about this case, Connor did not have serious, imminent, comorbid conditions and therefore would not have met the criteria described above for medical neglect. Furthermore, according to those criteria, the British Medical Association resolution that called for parents of obese children <12 years of age to be charged with neglect was overreaching.

The 16-year-old female patient treated in our ICU and her family became motivated to implement lifestyle modifications to address her weight. With the assistance of nutritional and health psychological services and aggressive treatment of her comorbidities, the patient has lost 100 lb (current BMI: 55.2 kg/m², 99.7th percentile). She no longer is ventilator-dependent and currently is using face mask, bidirectional, positive airway pressure therapy only at night. Although the patient is still at risk of serious harm, the family and the patient are making substantial progress with alternative options and the threat of state intervention has been unnecessary. If the family had not been willing to provide treatment, then this case would have met the 3 conditions for medical neglect and state intervention would have been warranted. This case demonstrates that severe obesity can be life-threatening, even for children, and enforced intervention can be life-saving. From a legal perspective, whether a charge of medical neglect for obesity could have been accomplished for this 16-year-old patient is not clear.

WHAT IF RESEARCH INTO THE CAUSES OR TREATMENT OF CHILDHOOD OBESITY PROVIDES A SIGNIFICANT CHANGE?

It is worth noting that new knowledge might change the approach to this problem. If a medical or surgical intervention that has very high probability of decreasing weight with minimal adverse events is developed, then the availability of this effective treatment might result in a stronger justification to intervene on behalf of children. For instance, gastric banding is a reversible procedure that involves the laparoscopic placement of an adjustable band around the proximal stomach. This procedure is not approved by the Food and Drug Administration for adolescents, and long-term data on its efficacy and complications are lacking. However, this procedure may hold some promise for extremely obese children, particularly because it is reversible.³² The inclusion criteria for bariatric surgery currently are quite stringent, and it is unlikely that an obese child with a serious, imminent, comorbid condition could undergo this operation. However, this does raise a provocative hypothetical situation; for such a child, is it better to remove the child from the home or to perform a mandated surgical procedure?

CONCLUSIONS

Childhood obesity is increasing at an alarming rate, and efforts to curb this epidemic and its consequences are being pursued appropriately. Cases of severe childhood obesity have prompted the following question: does childhood obesity ever constitute medical neglect? In our opinion, 3 conditions must be met to justify state intervention, that is, a high likelihood of serious imminent harm, a reasonable likelihood that coercive state intervention will result in effective treatment, and the absence of alternative options to address the problem. In the case of childhood obesity, it is not the mere presence or degree of obesity but rather the presence of comorbid conditions that is critical for the determination of serious imminent harm. All 3 criteria are met only in very limited cases, that is, the subset of obese children who have very serious comorbid conditions and for whom all alternative options have been exhausted. In these limited cases, a trial of removal from the home to protect the child may be indicated.

Some might consider this paradigm to be too conservative, that is, one should not wait until a child has a life-threatening condition to intervene. Others might argue that too many children would meet our criteria and that the courts, social service system, and medical community are not equipped to deal with the expansion of medical neglect into the realm of childhood obesity. We contend that the most egregious cases of childhood obesity (the far end of the spectrum in Fig 2) should be considered for coercive state intervention, including cases involving serious, imminent, comorbid conditions that are present in childhood (category 4) and serious comorbid conditions that are not reversible in adulthood (category 3).

We concede that there is some ambiguity in determining when a child has developed either serious imminent harm or serious irreversible harm, and we do not intend to predict that judges will follow our paradigm. These cases are not as clear as the case of a child of a Jehovah's witness who needs a lifesaving blood transfusion (where state intervention is universally pursued) or the case of a family that elects to take a child with newly diagnosed, metastatic, Ewing sarcoma home without treatment (where the extremely low probability of survival means that state intervention is not pursued). However, there is a rational, coherent, ethical argument in favor of intervening in cases of obesity with serious comorbid conditions. If we can agree that these severe cases might constitute medical neglect, then further discussion can help determine the point at which intervention to protect the child is warranted.

It is unfortunate that state intervention requires the language of neglect, which suggests moral judgment. As in many other instances that require state intervention to protect children, the purpose is not to make moral judgments about parents or to punish them but to protect children from serious harm. We use the term “neglect” in this article because that is what the law requires. We think that the overwhelming majority of parents in these situations care deeply about their children and mean well. It is possible that public discussion of the prospect of medical neglect in cases of childhood obesity could prompt families to take their child’s obesity more seriously, thereby decreasing the already limited number of cases that might meet these criteria for medical neglect.

Acknowledgments

Dr Varness was supported in part by National Institutes of Health postdoctoral training grant T32 DK077586.

REFERENCES

1. Speiser PW, Rudolf MC, Anhalt H, et al. Childhood obesity. *J Clin Endocrinol Metab.* 2005; 90(3): 1871–1887. [PubMed: 15598688]
2. Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: the Bogalusa Heart Study. *J Pediatr.* 2007; 150(1):12–17. [PubMed: 17188605]
3. Kmietowicz AC. BMA rejects call for parents of obese children to be charged with neglect. *BMJ.* 2007; 334(7608):1343.
4. Cuttler L, Whittaker JL, Kodish ED. The overweight adolescent: clinical and ethical issues in intensive treatments for pediatric obesity. *J Pediatr.* 2005; 146(4):559–564. [PubMed: 15812467]
5. Ogden CL, Flegal KM, Carroll MD, Johnson CL. Prevalence and trends in overweight among US children and adolescents, 1999–2000. *JAMA.* 2002; 288(14):1728–1732. [PubMed: 12365956]
6. Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, 1999–2004. *JAMA.* 2006; 295(13):1549–1555. [PubMed: 16595758]
7. Dietz WH, Robinson TN. Clinical practice: overweight children and adolescents. *N Engl J Med.* 2005; 352(20):2100–2109. [PubMed: 15901863]
8. Whitlock EP, Williams SB, Gold R, Smith PR, Shipman SA. Screening and interventions for childhood overweight: a summary of evidence for the US Preventive Services Task Force. *Pediatrics.* 2005; 116(1) Available at: www.pediatrics.org/cgi/content/full/116/1/e125.
9. Reilly JJ, Methven E, McDowell ZC, et al. Health consequences of obesity. *Arch Dis Child.* 2003; 88(9):748–752. [PubMed: 12937090]
10. Hoppin AG, Katz ES, Kaplan LM, Lauwers GY. Case records of the Massachusetts General Hospital: case 31–2006: a 15-year-old girl with severe obesity. *N Engl J Med.* 2006; 355(15): 1593–1602. [PubMed: 17035653]
11. Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *N Engl J Med.* 1997; 337(13):869–873. [PubMed: 9302300]
12. Adams KF, Schatzkin A, Harris TB, et al. Overweight, obesity, and mortality in a large prospective cohort of persons 50 to 71 years old. *N Engl J Med.* 2006; 355(8):763–778. [PubMed: 16926275]
13. Calle EE, Thun MJ, Petrelli JM, Rodriguez C, Heath CW Jr. Body-mass index and mortality in a prospective cohort of US adults. *N Engl J Med.* 1999; 341(15):1097–1105. [PubMed: 10511607]
14. Must A, Spadano J, Coakley EH, Field AE, Colditz G, Dietz WH. The disease burden associated with overweight and obesity. *JAMA.* 1999; 282(16):1523–1529. [PubMed: 10546691]
15. Xanthakos SA, Inge TH. Extreme pediatric obesity: weighing the health dangers. *J Pediatr.* 2007; 150(1):3–5. [PubMed: 17188602]
16. Dietz WH. Health consequences of obesity in youth: childhood predictors of adult disease. *Pediatrics.* 1998; 101(3):518–525. [PubMed: 12224658]

17. Weddle M, Kokotailo P. Adolescent substance abuse: confidentiality and consent. *Pediatr Clin North Am.* 2002; 49(2):301–315. [PubMed: 11993284]
18. Freedman DS, Dietz WH, Tang R, et al. The relation of obesity throughout life to carotid intima-media thickness in adulthood: the Bogalusa Heart Study. *Int J Obes Relat Metab Disord.* 2004; 28(1):159–166. [PubMed: 14581934]
19. Juonala M, Raitakari M, Viikari JSA, Raitakari OT. Obesity in youth is not an independent predictor of carotid IMT in adulthood: the Cardiovascular Risk in Young Finns Study. *Atherosclerosis.* 2006; 185(2):388–393. [PubMed: 16045913]
20. Summerbell CD, Ashton V, Campbell KJ, Edmunds L, Kelly S, Waters E. Interventions for treating obesity in children. *Cochrane Database Syst Rev.* 2003; 3 CD001872.
21. Tuomilehto J, Lindstrom J, Eriksson JG, et al. Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. *N Engl J Med.* 2001; 344(18):1343–1350. [PubMed: 11333990]
22. Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med.* 2002; 346(6):393–403. [PubMed: 11832527]
23. Epstein LH, Myers MD, Raynor HA, Saelens BE. Treatment of pediatric obesity. *Pediatrics.* 1998; 101(3):554–570. [PubMed: 12224662]
24. Freemark M. Pharmacotherapy of childhood obesity: an evidence-based, conceptual approach. *Diabetes Care.* 2007; 30(2):395–402. [PubMed: 17259519]
25. Colquitt J, Clegg A, Loveman E, Royle P, Sidhu MK. Surgery for morbid obesity. *Cochrane Database Syst Rev.* 2005; 4 CD003641.
26. Sjöström L, Narbro K, Sjöström CD, et al. Effects of bariatric surgery on mortality in Swedish obese subjects. *N Engl J Med.* 2007; 357(8):741–752. [PubMed: 17715408]
27. Adams TD, Gress RE, Smith SC, et al. Long-term mortality after gastric bypass surgery. *N Engl J Med.* 2007; 357(8):753–761. [PubMed: 17715409]
28. Inge TH, Zeller MH, Lawson ML, Daniels SR. A critical appraisal of evidence supporting a bariatric surgical approach to weight management for adolescents. *J Pediatr.* 2005; 147(1):10–19. [PubMed: 16027686]
29. Tsai WS, Inge TH, Burd RS. Bariatric surgery in adolescents: recent national trends in use and in-hospital outcome. *Arch Pediatr Adolesc Med.* 2007; 161(3):217–221. [PubMed: 17339501]
30. Inge TH, Krebs NF, Garcia VF, et al. Bariatric surgery for severely overweight adolescents: concerns and recommendations. *Pediatrics.* 2004; 114(1):217–223. [PubMed: 15231931]
31. Norfolk A. Obese boy is allowed to stay with his mother. *The Times (London).* 2007 February 28:11.
32. Inge TH, Xanthakos SA, Zeller MH. Bariatric surgery for pediatric extreme obesity: now or later? *Int J Obes (Lond).* 2007; 31(1):1–14. [PubMed: 17173060]
33. Centers for Disease Control and Prevention. CDC growth charts: United States—percentile data files with LMS values. Available at: www.cdc.gov/nchs/about/major/nhanes/growthcharts/datafiles.htm

FIGURE 1.

BMI-for-age percentile values for boys 2 to 20 years of age, adapted from the Centers for Disease Control and Prevention percentile data files with LMS values.³³ The 99th percentile values were calculated by using the Centers for Disease Control and Prevention data and equation with a z score of 2.326.

FIGURE 2.
Spectrum of risk associated with childhood obesity.

TABLE 1

Childhood Obesity Categories

Category	Description
1	Obese children who have no comorbid conditions
2	Obese children who have comorbid conditions that predict serious harm but are reversible in adulthood
3	Obese children who have comorbid conditions that predict serious harm and are not reversible in adulthood
4	Obese children who have comorbid conditions that constitute serious imminent harm in childhood