REFERENCE

1. American Diabetes Association: Position statement: screening for diabetes. *Diabetes Care* 12:588–90, 1989

I was pleased to read the American Diabetes Association's position statement on screening for diabetes (1). I believe these guidelines will be most beneficial in assisting organizations that provide such screenings for their communities.

However, I am somewhat confused regarding the term *plasma glucose level* when screening for diabetes. To my knowledge, any screening done outside of a hospital or physician's office would obtain a whole-blood glucose level not a plasma glucose level. Throughout this position statement, the screening test is referred to as a plasma glucose level, yet references are made to lancets and lancet-holding devices that would not be used to obtain a plasma specimen.

Please advise me if I am interpreting this statement incorrectly. I would greatly appreciate your clarification of this matter because others may be just as puzzled as I am.

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REFERENCE

1. American Diabetes Association: Position statement: screening for diabetes. *Diabetes Care* 12:588–90, 1989

The recent American Diabetes Association (ADA) position statement regarding screening for diabetes (1) reverses a long-standing and, in our opinion, well-founded consensus that screening for non-insulin-dependent diabetes mellitus (NIDDM) is not appropriate (2–5). Although the position statement suggests that only high-risk individuals be screened for diabetes, the high-risk criteria cited are sufficiently common to include a large fraction of the U.S. population >40 yr of age. Considering the significant departure from past and more recent recommendations not to screen (6), we thought it worthwhile to review the commonly accepted rationale for screening and examine whether any new data support the change in ADA's position.

Six criteria proposed by Frame and Carlson (2) in their thorough review of periodic health screening remain the accepted standards to justify screening. Those criteria include the following. The disease must have *1*) significant morbidity and/or mortality, *2*) high enough incidence to justify the cost of screening, *3*) an asymptomatic phase during which detection and treatment significantly reduce morbidity or mortality, *4*) methods to detect disease in its asymptomatic phase must be available, *5*) acceptable therapy must be available, and *6*) treatment of disease during the asymptomatic phase must yield results superior to those obtained if treatment were delayed until symptoms appeared.

NIDDM easily satisfies criteria 1, 2, 4, and 5. It is accompanied by profound complications with resulting morbidity and mortality and is highly prevalent in both symptomatic and asymptomatic phases (7). The availability of screening methods (oral glucose tolerance test) and acceptable therapy (diet, oral hypoglycemic agents, or insulin) are also unarguable, although the efficacy of such treatments in restoring normal metabolic control is debatable.

The objections raised in the past to screening for NIDDM have focused on criteria 3 and 6. Long-term studies to date have been unable to demonstrate a beneficial effect of therapy in reducing long-term complications. Thus, in the absence of symptoms to be ameliorated, therapy of NIDDM does not demonstrably improve the lot of NIDDM patients. The position statement refers to "many studies suggesting that tight control of blood glucose levels (i.e., normal or near normoglycemia) in a hyperglycemic individual may help prevent or retard the onset of complications." Note, although the recommendations in the position statement are predicated almost entirely on this assumption, no references are provided to support it. Although we agree that an association between long-term glucose control and microvascular (8) and perhaps macrovascular (9) complications has been established in NIDDM, no acceptable study has demonstrated a beneficial impact of intervention on long-term outcome. The most comprehensive trial of different therapies on long-term outcome in NIDDM (University Group Diabetes Program) was not able to conclude that there was any impact of intensive therapy on outcome. Thus, there are no convincing data to suggest that identifying NIDDM patients in their asymptomatic phase will benefit them.

Other arguments that support screening, even in the absence of demonstrable benefit of therapy, have been advanced by its proponents. These include the proposition that earlier identification will motivate physicians and individuals who screen positive to provide better care (self-care) and improve their health. The largest screening study conducted in the U.S. (Cleveland, 1967–1971) examined >600,000 individuals (10). The Cleveland study documented a modest (2.9%) weight loss 3 yr after identification in individuals who screened positive, which was not sustained at 5 yr. Another argument marshalled in favor of screening is that by identifying diabetes, we may unmask other abnormalities, such as hyperlipidemia or hypertension, that accompany diabetes and require therapy. This represents a weak justification for screening for diabetes: it is much more effective and economical to screen for cholesterol or hypertension per se rather than detect them during screening for diabetes.

The knowledge that there are many undiagnosed

NIDDM patients makes their detection through screening seductive for an organization such as ADA. However, no data, new or old, support this approach. In the absence of effective therapy to decrease morbidity or mortality in the asymptomatic phase, large-scale screening is not justified. Although one may argue that there is no harm in identifying such patients, the expense of such programs drains medical resources that may be better spent. In addition, the impact of labeling an individual as diabetic is not trivial, with regard to both the patient's self-perception of health and employment and insurance issues (11). We encourage ADA to reconsider its position statement in light of the above information.

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Reply

The Committee on Professional Practice (COPP) of the American Diabetes Association (ADA) is the body responsible for the development of all scientific and medical position statements. These documents are usually prepared by a task force comprised of four to six health professionals with an interest in the subject matter. After a statement emerges from the writing group, it is discussed by COPP and then sent to at least a dozen reviewers. The reviewers are chosen on the basis of their expertise and familiarity with the issue, and reviewers are selected who are familiar with any regional variations in clinical practice that may be important. Individuals who have an opinion that may conflict with the thrust of the statement are also chosen.

Nearly two dozen experts served as reviewers for the position statement on screening for diabetes. In addition, the final statement underwent review and approval by COPP and the ADA Executive Committee. The point of view articulately conveyed by Drs. Nathan and Singer was heard, but the majority of the scientific and medical community surveyed disagreed with their opinion. ADA position statements do not convey or portend to convey the unanimous belief of all professionals. Rather, position statements are intended to reflect a consensus medical opinion, one that the vast majority of practitioners espouse.

COPP appreciates the concerns expressed by Schlossbach. We definitely do not want people who assist with fingersticks or draw blood samples to contract an infectious disease. The recent Centers for Disease Control guidelines on the handling of specimens from suspected or known carriers of human immunodeficiency virus or hepatitis should be followed.

The position statement refers to plasma because that is the fluid in which glucose is measured. Indeed, plasma is tested by many strip methods when whole blood is placed on a strip or, of course, when it is intentionally isolated from whole blood.

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Insulin as Risk Factor for Vascular Disease

The consensus statement of the American Diabetes Association on the role of cardiovascular risk factors in the prevention of macrovascular disease in diabetes de-emphasizes the role of insulin as a significant contributory factor in the development of diabetic macrovascular dis-