A decade has passed since Gruntzig performed the first coronary angioplasty in Zurich. As the initial reports of that experience became widely known, they were greeted with both wonderment and scepticism. Wonderment because the angiographic changes and the pressure gradient measurements established that a remarkable reduction in the degree of obstruction could be produced. Scepticism because initially the mechanism through which this was accomplished was obscure. Furthermore, there were fears of all sorts of disastrous complications. These included downstream embolization, large coronary dissections that would lead to closure or even rupture of vessels, immediate thrombosis or spasm with resultant myocardial infarctions, episodes of late spasm, and even fear that splitting of the fibrous cap of the atherosclerotic lesion would result in accelerated atherogenesis in the future. There were also concerns regarding the likelihood of restenosis. These latter have proven to be justifiable and serve to limit the benefits of the procedure. Nevertheless, as experience accumulated, initially by Gruntzig and his early collaborators, Kaltenbach in West Germany, Stertzer in New York, and Myler in San Francisco, it became evident that the procedure was an innovative and important therapeutic intervention.

Around this time, a conference was held in the United States by the National Heart, Lung, and Blood Institute, following which the decision was made to initiate a registry that would incorporate subsequent experience with PTCA. With the cooperation of the manufacturers, most of the angioplasties performed in the next several years were registered and a considerable amount of data accumulated. Thousands of patients were entered in this registry, and some of this data is presented in this conference.

Originally, angioplasty was performed primarily in the symptomatic patient with exertional angina pectoris, good left ventricular function, and a single, proximal, discrete, concentric, noncalcified lesion. As more experience was gained, it became evident that mortality was quite low, approximately 1%. Furthermore, major complications that required emergency bypass surgery were around 5%. These low complication rates led to a natural extension of the indications. The registry began to incorporate patients with unstable angina, multivessel disease, bypass grafts that were obstructed, and other kinds of cases above and beyond the single-vessel patient. The registry data still dominantly reflects single-vessel disease, but today, as a result of the explosion of angioplasty across the
world, there are now more cases done for multivessel coronary disease than for single-vessel coronary disease. This has led, in turn, to confusion as to the relative roles of surgery and angioplasty in the management of patients with chronic stable angina pectoris as well as unstable angina. We have also seen extension of PTCA to patients with acute myocardial infarction, and some of these data are to be discussed in this meeting.

Unfortunately, there are no large-scale randomized clinical trials comparing bypass surgery to angioplasty in patients in whom either procedure might appropriately be used. As a result, most of the data are observational in nature. The liberalization of indications for PTCA combined with the absence of clinical trials have led to a need to set some uniform guidelines in a number of areas connected with angioplasty. In response, the Council on Clinical Cardiology of the International Society and Federation of Cardiology (ISFC), together with the World Health Organization (WHO), appointed a joint task force in late 1984 to attempt to set some guidelines and standards in this area. This task force met between 1985 and 1987 and has completed its work. The Task Force report has now received formal approval by the ISFC and WHO and is presently in press in several national cardiology journals.

I would like to present a brief summary of the findings of that task force. I want to emphasize that this is a condensed summary of findings, and I shall only present some of the highlights of the report.

The task force was chaired by Dr. Martial G. Bourassa of Canada and included the following members:

Edwin L. Alderman, USA
Michel Bertrand, France
Luis de la Fuente, Argentina
A. Gratsianski, USSR
Martin Kaltenbach, FRG
Spencer B. King, USA
Masakiyo Nobuyoshi, Japan
Paul Romaniuk, GDR
Thomas J. Ryan, USA
Patrick W. Serruys, The Netherlands
Hugh C. Smith, USA
Jose Eduardo Sousa, Brazil
Siegfried Bothig, FRG, ex officio
Elliot Rapaport, USA, ex officio

Task force members looked at the frequency of PTCA in their own countries, and rather startling statistics were uncovered. In the United States, where in 1984 some 63,000 angioplasty procedures were performed, almost 160,000 procedures were performed in 1986. There were approximately 279,000 bypass operations in the United States the same year. In other words, for every three cases that went to bypass surgery, there were almost two cases where PTCA was performed. In a very short period of time, angioplasty has become a frequently performed procedure in the United States. Similarly, in many other countries one can see an increasing use of the technique. Nevertheless, there is often a significant variability in the use of PTCA among different countries. For example, in 1986 there were approximately twice as many procedures done in Canada per 100,000 adult population as in West Germany. Part of this variability may reflect differences in the prevalence of coronary artery disease among countries. But,