



Best laboratory used:

Terms and definitions used in clinical laboratory:

Analytical errors influence the accuracy, precision, sensitivity, specificity and reproducibility and repeatability of the analytical methods.

تؤثر الأخطاء التحليلية على دقة الطرق التحليلية وضبطها وحساسيتها وخصوصيتها وإمكانية إعادة إنتاجها وقابلية تكرار الطرق التحليلية.

Accuracy refers to the degree of agreement between a measured value and its 'true' value.

تشير الدقة إلى درجة التوافق بين القيمة المقاسة وقيمتها "الحقيقية".

Precision refers to the reproducibility or the agreement between repeated measurements. Precision is quantitatively expressed as Standard Deviation (SD) or as Coefficient of Variation (CV) of the results in a set of replicate measurements. Hence good precision means least CV. Ideally a laboratory must strive to achieve both good accuracy and precision in the results.

الضبط يشير إلى إمكانية إعادة إنتاجها أو التوافق بين القياسات المتكررة. الضبط يعبر عنها كمياً بالانحراف المعياري (SD) أو بمعامل التباين (CV) للنتائج في مجموعة من القياسات المتكررة. ومن ثم فإن الضبط الجيد يعني أقل معامل تباين. من الناحية المثالية، يجب أن يسعى المختبر إلى تحقيق الدقة والضبط الجيدين في النتائج.

The quality of the laboratory equipment used affects the accuracy of the results of analysis and laboratory measurements. Quality represents the set of features and characteristics of the product that determine its suitability to achieve the purpose for which it was produced to meet the expected consumer desires. The specific concept of product quality control by a specific department or division has become an obsolete concept and quality control departments have turned into a collective responsibility and the prevailing concept has emerged today, which calls for comprehensive quality management or integrated control of production quality and service provision.

تؤثر جودة الأجهزة المخبرية المستخدمة على دقة نتائج التحاليل والقياسات المخبرية. تمثل الجودة مجموعة سمات وخصائص المنتج التي تحدد مدى ملاءمته لتحقيق الغرض الذي تم إنتاجه من أجله لتلبية رغبات المستهلك المتوقعة. لقد أصبح المفهوم المحدد لمراقبة جودة المنتج من قبل قسم أو قسم معين مفهوماً عفا عليه

الزمن وتحولت أقسام مراقبة الجودة إلى مسؤولية جماعية وظهر المفهوم السائد اليوم والذي يدعو إلى إدارة

الجودة الشاملة أو الرقابة المتكاملة على جودة الإنتاج والخدمة

Factors Affecting the quality of measurements device

Adequacy of Design: It is the extent to which the design fits the purpose for which it was established, in other words, the extent to which the design specifications meet the requirements of the client.

- **Conformance to Design:** The extent of conformity with the design specifications after the completion of the manufacturing process, and based on this factor, the labor responsibilities towards quality are determined.

- **Availability:** The extent to which the customer can use the product when desired. The product is said to be available for use when it is in its operational state.

- **Reliability:** The probability that a product will perform a specified function under known operating conditions with continued performance for a specified period of time and without failure.

- **Maintainability:** How easy it is to perform product inspections and maintenance. There are two ways to perform maintenance, preventive maintenance and remedial maintenance.

- **Ease of Manufacturing Predictability:** The extent to which the design can be manufactured using the available means, methods and processes for the human cadres working in the organization.