Therapeutic Equivalence = Bioequivalence + Pharmaceutical Equivalence

Drugs are considered to be therapeutic equivalents and thus suitable for substitution (generic equivalents) if, among other factors, they are both pharmaceutical equivalents and bioequivalent.

Therapeutic Equivalents: Drug products are considered to be therapeutic equivalents only if they are pharmaceutical equivalents and if they can be expected to have the same clinical effect and safety profile when administered to patients under the conditions specified in the labeling.

The FDA classifies as therapeutically equivalent those products that meet the following general criteria:
I. they are approved as safe and effective;
II. they are pharmaceutical equivalents in that they,
   (a) contain identical amounts of the same active drug ingredient in the same dosage form and route of administration, and
   (b) meet compendial or other applicable standards of strength, quality, purity, and identity;
III. they are bioequivalent in that,
   (a) they do not present a known or potential bioequivalence problem, and they meet an acceptable in vitro standard, or
   (b) if they do present such a known or potential problem, they are shown to meet an appropriate bioequivalence standard;
IV. they are adequately labeled; and
V. they are manufactured in compliance with Current Good Manufacturing Practice regulations.

Bioequivalents: Drugs are deemed bioequivalent if:
"The rate and extent of absorption of the test drug do not show a significant difference from the rate and extent of absorption of the reference drug when administered at the same molar dose of the therapeutic ingredient under similar experimental conditions in either a single dose or multiple doses;" or
"The extent of absorption of the test drug does not show a significant difference from the extent of absorption of the reference drug when administered at the same molar dose of the therapeutic ingredient under similar experimental conditions in either a single dose or multiple doses and the difference from the reference drug in the rate of absorption of the drug is intentional, is reflected in its proposed labeling, is not essential to the attainment of effective body drug concentrations on chronic use, and is considered medically insignificant for the drug."

Pharmaceutical Equivalents: FDA considers drug products to be pharmaceutical equivalents if they meet these three criteria:
1. they contain the same active ingredient(s)
2. they are of the same dosage form and route of administration
3. they are identical in strength or concentration
Pharmaceutically equivalent drug products may differ in characteristics such as shape, release mechanism, labeling (to some extent), scoring, and excipients (including colors, flavors, preservatives).

—Definitions from FDA.gov