



The Art of Dosage
Drugs Through History

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Pharmacology's core paradox—the dose makes the poison—unfolded tragically in 1775 when William Withering standardized foxglove (*Digitalis purpurea*) for dropsy treatment.

His titration trials revealed that 0.1g dried leaf eased edema, while 0.2g caused fatal bradycardia. This narrow therapeutic index haunted early medicine: Egyptian Ebers Papyrus (1550 BCE) prescribed opium poppy (*Papaver somniferum*) for colic, unaware that variance in soil alkaloids could turn relief into respiratory arrest.

Renaissance surgeons used coca leaves (*Erythroxylum coca*) for anesthesia, chewing precisely 28g to achieve analgesic euphoria without convulsions. Modern precision emerged with warfarin: derived from spoiled sweet clover that caused 1930s cattle hemorrhages, its dosage now requires weekly INR monitoring to balance clotting risks.

Genomics now personalizes dosing—breast cancer patients metabolize tamoxifen 40% slower if carrying CYP2D6*4 alleles, demanding halved doses. Yet ancient wisdom endures: Pacific Islanders still chew kava (*Piper methysticum*) roots for anxiolytic effects, stopping when tongue numbness signals optimal pipermethystine levels.