Tablet Splitting—Only If You "Half" To

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PROBLEM: Nearly all oral medications are sold in the dosage strengths that are most commonly prescribed for patients. Occasionally, the exact dose might not be available commercially, so more than one tablet or just part of a tablet may be needed. Although using more than one tablet for a single dose is customary, tablet splitting has become more commonplace for several reasons:

- Different tablet strengths often cost about the same. Patients who cannot afford their medications have received a higher-strength tablet with directions to take a half tablet (or even a quarter tablet) per dose.[1]
- Some health insurers have denied payment of prescriptions for the lower strength of certain drugs, thus requiring patients to receive the higher-strength tablet and to split it in half for each dose.[1]
- Some health care organizations have not purchased all commercially available strengths of oral medications. Thus, some tablets might need to be split for specific doses in the inpatient setting.
- Patients might not be able to swallow whole tablets.[2]

An article from a Veterans Affairs (VA) newsletter[2] and an article on the American Society of Consultant Pharmacists Web site[1] discuss the pitfalls associated with splitting tablets and suggest that this method is not the safest option if the patient-specific dose is available commercially.

Patient factors. Patients can easily become confused about the correct dose. Here is one example.

A woman was admitted to the hospital with unstable angina and hypertension. Her physician found that she had been taking the wrong dose of lisinopril (Prinivil, Merck; Zestril, AstraZeneca). She was supposed to be taking 5 mg twice daily, but the prescription label listed 10-mg tablets in the bottle. When the physician looked inside, he saw both pink and peach tablets, some split in half. Initially, the patient had been taking a 20-mg tablet twice daily. When the physician lowered the dose to 10 mg twice daily, the new prescription was filled. The patient then cut the leftover 20-mg tablets in half and put them in the same bottle that held the 10-mg tablets.

Later, the physician lowered the dose to 5 mg twice daily. Instead of filling the new prescription for 5-mg tablets, she tried to find all the 10-mg tablets to split them in half, but some remained whole. In this case, no one could be certain of the dose the patient had been taking before she was hospitalized.

A study by the VA showed that most people were taking too much medication because they forgot to split their tablets.[2] Two-thirds of the patients received more than the intended dose. Pharmacists caught these errors because the patients came in ahead of schedule to refill their prescriptions. In more than half of the events, the involved doses were available commercially.

In the article on tablet splitting in order to save money, Clark identified a few additional risks:[1]

- A pharmacist might misread a prescription written for one-half (1/2) tablet as 1 to 2 tablets.
- Patients might assume that tablets have already been split when they have not, or they might split the tablets again when they have been split already, especially if the pharmacy inconsistently splits the tablets upon refill.
- Patients might not have the visual acuity or manual dexterity needed to divide the tablets.
- Patients may become confused and may split the wrong medication.
- Patients sometimes get tired of splitting the tablets and may stop taking them.
- To maximize cost savings, patients might have been told to split the tablets in half, but the directions on the prescription may list "1 tablet" for each dose. These directions could mislead the patient or other health care providers who use the prescription label as a source of information when gathering the patient's medication history.
- Split tablets crumble more easily.

Medication factors. Some medications or formulations are not suitable for splitting, including capsules, enteric-coated or extended-release tablets, very small or asymmetrical tablets, and teratogenic agents (e.g., bosentan).

Various studies suggest that obtaining an accurate dose from a split tablet is uncertain, even if the tablet is scored.[1] In one study, 94 volunteers were asked to split 10 25-mg tablets of hydrochlorothiazide; 41% of the split tablets deviated from the correct weight by 10%, and 12% of the tablets deviated from the correct weight by more than 20%. Other research cited by Clark corroborates the significant variation in tablet halves with rates of inaccuracy ranging from 5% to 72%.[1]

SAFE PRACTICE RECOMMENDATIONS: Health care providers should make every effort to use commercially available oral tablets, when available, in both inpatient and outpatient settings. However, tablet splitting may still be necessary if the drug is not available in the patient-specific dose or if the patient's inability to afford the medication as an outpatient outweighs the risks involved with tablet splitting. In view of these circumstances, Clark, the VA, and the Institute for Safe Medication Practices (ISMP) offer some suggestions.

1. **The agent's suitability should be verified.** Before a half tablet is prescribed, dispensed, or administered, drug references should be checked to ensure that the agent is safe. If its safety cannot be confirmed, the manufacturer should be contacted.[2]

a. Criteria should be established for screening patients before half tablets are prescribed to ensure that patients have the required level of understanding, ability, and motivation to divide the tablets.[1,2]

b. Patients should understand the risks associated with splitting tablets. If a patient cannot be expected to split a tablet, a qualified family member should be entrusted to do this. (*Note:* In some states, it might not be legal for a pharmacist to split tablets if the dose is available commercially.[1])

2. **Split tablets should be dispensed in the hospital.** For the hospitalized patient, pharmacy staff members should dispense exact doses by either splitting tablets and repackaging them or by preparing an oral solution in a unit–dose oral syringe for each dose. Nurses should *not* be expected to split tablets.

3. **Sanitary conditions must prevail.** Patients and health care providers who split tablets should wash their hands first; the practitioner should also wear gloves. If a tablet-splitting device is used, it should be washed afterward to remove any powder or particles.

4. **Drugs should be prescribed according to the patient's weight.** Prescribers should order the medication strength and dose in milligrams, when possible, to avoid misreading an order for a half (1/2) tablet as 1 to 2 tablets.

5. **Patient counseling is recommended.** A system should be established so that patients are counseled when prescriptions for medications that require half tablets are picked up at community pharmacies, even if the pharmacist has split the tablets for the patient.[2]

6. **Patients need the right tools.** If patients must divide drugs at home, they should be given a tablet-splitting device to improve accuracy.[2]

7. **Patients need instructions upon discharge.** If patients are receiving half tablets during their hospital stay, they should be advised about the dose they are to take at home and whether they will need to split tablets or take them whole.

REFERENCES

1. Clark TR. Tablet splitting for cost containment. American Society of Consultant Pharmacists, August 2002. Available at: www.ascp.com/advocacy/briefing/tabletsplittingcontainment.cfm.
2. Sales MM, Cunningham FE. Tablet splitting. *Top Patient Saf* 2006;6(3):1,4.

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