

# Implementation of an integrated multifaceted program to improve crushing practice on hospital wards

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## BACKGROUND

Crushing tablets is an important risk factor for medication administration errors in patients with swallowing problems and feeding tubes. Information regarding patients requiring crushed medication does not routinely reach the hospital pharmacist. Measures to improve crushing practice may consist of introducing guidelines, training nurses or giving pharmacy advice.

## OBJECTIVE

To describe an integrated multifaceted program using an audit and feedback strategy to improve crushing practice on hospital wards in a 500-bed general hospital.

## METHODS

- clinical pharmacy project
- pre-intervention questionnaires + disguised observations to assess nurses' knowledge and current practice
- gradual implementation of several interventions
- audit = retrospective analysis prescriptions
- feedback = educational sessions + poster

## RESULTS

### PRESCRIPTION

- mention **"to crush"** on drug prescriptions
- order enteral tube feeding using specific **order form**

### PATIENT-TAILORED SUBSTITUTIONS & ADVICES

- pharmacist provides **information form** listing substitutions & advices
- retrospective analysis of 160 prescriptions:
  - 601 drugs to crush
  - 18% substituted by alternative dosage form
  - 2 hazardous drugs to administer
  - substitutions for same drug and patient may differ

### ADMINISTRATION

- **oral syringes** available
- test desintegration of commonly crushed tablets
- procedure "syringe method" as closed system for administration of hazardous drugs and dispersible tablets



"SYRINGE METHOD" using oral syringes

TOP 20 of most commonly drugs "to crush"

Geneesmiddel	Pletbaar?	Tablet oplosbaar in water?	Oraal alternatief	Opmerkingen
Amilor caps	openen, inhoud afnemen	nee		
Augmentin 500/125 mg conp	JA	nee	- Augmentin zakjes 500/125 mg - Augmentin sloop 200/82.5 mg/5 ml	opgelet: voor resuspendie, gebruik handschoenen en mondmasker
Augmentin Retard 1g/12.5 mg conp	NEE (vertraginge vrijstelling)	-	- Augmentin zakjes 500/125 mg - Augmentin sloop 200/82.5 mg/5 ml - Augmentin conp 500/125 mg	opgelet: voor resuspendie, gebruik handschoenen en mondmasker opgelet: alternatief geen vertraginge vrijstelling, desintegratieproefje in overleg met arts aanpassen
Azulfone conp	NEE (nietrepresentatief)	-	Atropic zakje 100 mg	
Cardiazepam conp	NEE (vertraginge vrijstelling)	-	- Diphenin sloop 300 mg/5 ml - Diphenin oplossing 300mg/1ml	opgelet: alternatief geen vertraginge vrijstelling, desintegratieproefje in overleg met arts aanpassen en/ of extra monitoring bloedspiegel
Emocor conp	JA	JA		
Faspir conp	JA	nee	Kaprin oplossing 100 mg/1 ml	
Lanoxin conp	JA	nee	Lanoxin sloop 0.5 mg/1 ml	en/ of extra monitoring bloedspiegel
Lactan conp	JA	JA		
Lidocain conp	openen, inhoud afnemen	JA		
Meldrol conp	JA	JA		
Metoprolol conp	JA	JA		
Ortopresic caps	NEE (nietrepresentatief)	-	Lowee MUPS conp 10/20 mg (oplossen in water)	
Phlegma HES 100/25 mg SIB	NEE (vertraginge vrijstelling)	-	Phlegma OIB conp 100/25 mg (oplossen in water)	opgelet: alternatief geen vertraginge vrijstelling, desintegratieproefje in overleg met arts aanpassen
Phlegma 200/50 mg conp	nee	nee	Phlegma OIB conp 100/25 mg (oplosbaar, disintegreren in water)	
Spargan conp	NEE (vertraginge vrijstelling)	-	Spargan conp 100 mg (oplosbaar, pufbaar)	opgelet: alternatief geen vertraginge vrijstelling, desintegratieproefje in overleg met arts aanpassen
Spargan conp	JA	JA		
Takrol conp	JA	JA		
Xanax conp	JA	JA		
Xanax Retard conp	NEE (vertraginge vrijstelling)	-	- Xanax sloopjes 0.75 mg/1 ml - Xanax conp (oplosbaar, oplosbaar)	opgelet: alternatief geen vertraginge vrijstelling, desintegratieproefje in overleg met arts aanpassen
Zentac conp	JA	nee		
Zincor conp	JA	nee	Zentac sloop 3 mg/5 ml	

## CONCLUSIONS

Patients in need of crushed medication may benefit from medication review by a pharmacist. Audit and feedback provides relevant information to other caregivers to prescribe and administer medication correctly and safely. To evaluate and sustain the impact of our interventions, the clinical pharmacist, as member of the nutrition support team, will regularly review drug therapy of patients on enteral tube feeding during their ward visits.

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