

Comparative study of two methods of unit-dose packaging : Eticonform® and Euraf®

Poster : 2SPD-028

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Background

Good hospital practices recommends the nominative delivery of the medicinal product to the patient. To fulfill this requirement, in our hospital, we use two methods of unit repackaging of dry non-unit oral forms : the Eticonform® software and the EURAF® automaton.

Objective

Our objective is to compare these methods of repackaging in terms of time, non-conformity and cost of production.

Methods

A prospective study was carried out from 01 January 2017 to 30 June 2017 to evaluate the Eticonform® software and the EURAF® automaton.

For each technique :

- We measured the average time spent per unit
- Production costs were calculated by integrating personal time (operator, preparer, and pharmacist), operating costs (machine depreciation and maintenance, computer, electricity, cleaning) and costs of consumables.
- We recorded the number of units lost during production and the number of reconditioned units outdated
- The data was extracted using the Euraf® and Eticonform® software
- We analyzed nonconformities

Results

Eticonform

During the study period, 47,683 units of 161 specialties were over-labeled;

The average time per unit was **6 seconds**.

The average cost of production was **0.11 euros**.

Over-labeling did not result in nonconformity, expired unit or even lost unit.

Euraf

During the study period, 90966 units of 96 specialties were produced by the Euraf automaton.

The average re-packaging time per unit was **15 seconds**.

The average cost of production was **0.21 euros per unit**.

The Euraf® method generated 1580 units (1.74%) expired unities, ie 126 euros of financial loss and 1.5 kg of waste. Nonconformities noted with the Euraf method are: loss of units by crushing (165 units or 0.2%) and labeling errors.

Discussion

Euraf

EURAF® unit bagging machine,
Needs a deblistering machine,
Production room is required
Its operation is not simple,
Generates more waste,
Generates Unconformities
(labeling error, name, dosage and form)

Eticonform

Doesn't require : machine,
maintenance, unpack the drugs,
Just an internet connection,
Easy to use,

But : expensive label, not suitable
for tablets in bottle, for small
tablets.



Picture 3:
Euraf® bagging machine



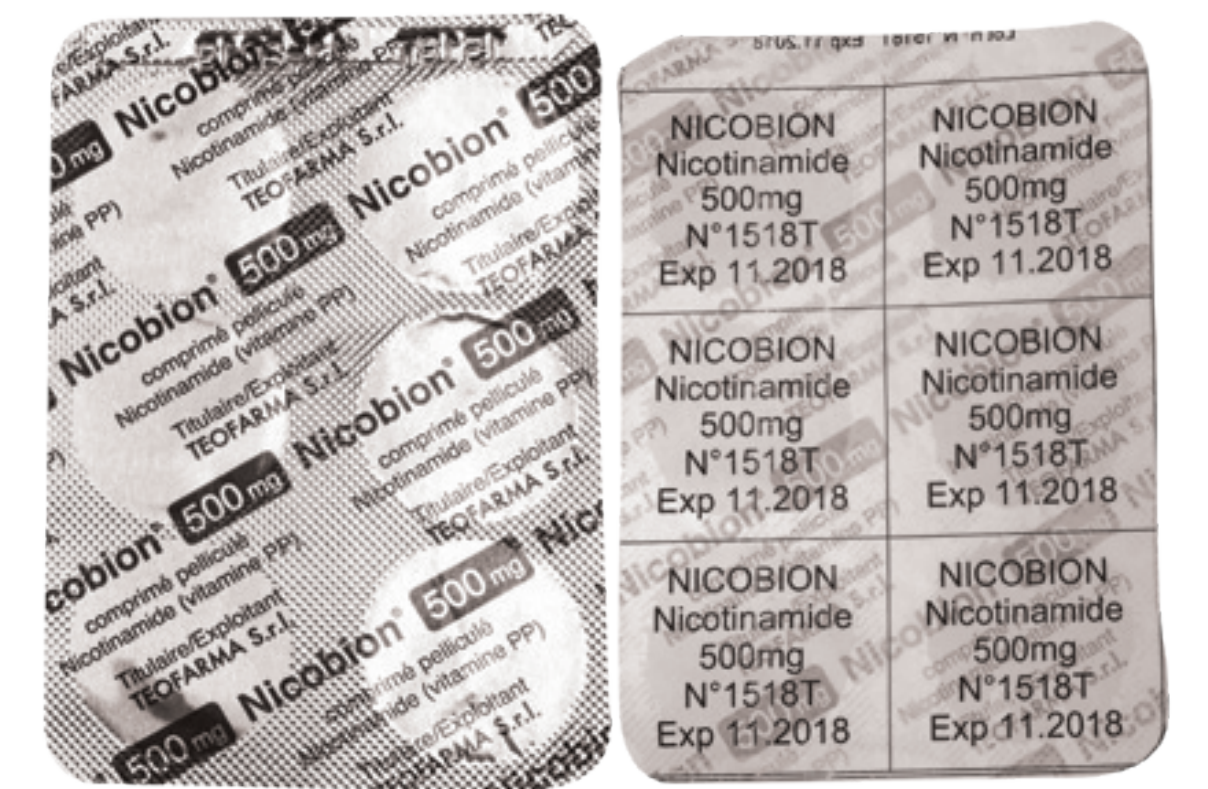
Picture 4:
Deblistering roller



Picture 5:
Eticonform website



Picture 1:
Repackaging Euraf®
Before and after



Picture 2:
Repackaging Eticonform®
Before and after

Table 1: Production cost

	Euraf	Eticonform
Depreciation of the automaton	2000	0
Routin maintenance	2000	0
Informatic cost	500	500
Staff cost		
Pharmacy technician : 0,1 FTE*	5080	2500
Pharmacist : 0,1 FTE*	10000	6100
Operator : 0,4 FTE*	14012	0
Cleanor : 0,1 FTE*	2000	0
Others	200	100
Energy cost : 20€ / M2 / year for 10m2	200	200
Consumable Cost :	3000	700
Overall	38992	10100
Count of units labeled	181932	95366
Cost per packaged unit	0,21	0,11

*Full-time equivalent

Table 2: Comparison

	Euraf	Eticonform
Cost of production	0,21 €	0,11 €
Time per unit	6 seconds	15 seconds
Expired unities	1,74 %	-
Loss of units by crushing	0,2 %	-
Unconformities	0,1 %	-

Conclusion

The two methods are complementary.
Euraf® automaton will be used for reconditioning in large series.
Eticonform® software is the fastest and least costly technique for over-labeling. It has many advantages such as retention of the expiration date, ease and flexibility of use. However, it can only be used for specialties in the form of blister packs.

Acknowledgements :
Kreitz Sigourney, Sialleli Melody, Godard Alain