

## Advanced Triage for minor injuries : a solution to reduce patients transit time?

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### Introduction

The increased demand for emergency services is already known for years. The emergency department overcrowding is an ongoing and complex concern requiring multiple methods in order to manage this major patient flow. Many solutions have been suggested, one of them is about the development of an advanced nurse triage. In this study, we've been trying to determine the interest of using an advanced nurse triage initiating x-rays for patients with minor trauma injuries. The aim was to observe if there was a significant gain of time without any decrease in quality of care.

### Methods

We report a prospective, randomised controlled trial on 73 patients with minor trauma injuries. The patients were divided in two different groups : those with triage nurse-requested x-rays (study group, n = 40) and those following the traditional way (control group, n = 33). We calculated the total length of stay, and intermediate times as well. Another important focus was to determine if nurse-requested x-rays were still appropriate without any decrease in prescription's quality.

### Results

The study demonstrates a significant decrease in patient transit time by the development of an advanced nurse triage. The gain of time is approximately 42 minutes ( $p < 0,0001$ ) for the study group.

Table: Comparison time for both study and control groups.

	Study group n = 40 Mean ± SD	Control group n = 33 Mean ± SD	p value
In triage area	8'36" ± 7'40"	8'14" ± 6'20"	0,827
Out triage area	11' ± 7'53"	11'36" ± 6'21"	0,781
X-ray asked	12'48" ± 8'	41'2" ± 17'51"	<0,0001
X-ray done	22'15" ± 10'17"	52'58" ± 21'4"	<0,0001
X-ray results	36'32" ± 19'20"	70'40" ± 26'14"	<0,0001
First medical contact	50'26" ± 23'44"	96'40" ± 38'31"	<0,0001
Treatment	57'2" ± 28'56"	99'31" ± 39'15"	<0,0001
Out	67'11" ± 31'2"	109'53" ± 41'26"	<0,0001

It's interesting to notice that greater results are obtained when the crowding is increased. In an overcrowded service, the difference can reach 58 minutes ( $p < 0,0001$ ).

### Conclusion

The establishment of an advanced nurse triage initiating x-rays seems to be a workable solution in response to EDs overcrowding without any loss in quality of care. Thereby, the total time spent by patients in the EDs could be reduced and their satisfaction improved.