



# Combatting sedentary lifestyles; can exercise prescriptions in the Emergency Department lead to a behavioural change in patients?

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Exercise prescription; emergency department;  
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## Conflicts of Interest:

None

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Link to all  
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## Introduction:

Patients with chronic diseases are known to benefit from exercise. Such patients often visit the emergency department (ED). There are few studies examining prescribing exercise in the ED. We wished to study if exercise prescription in the ED is feasible and effective.

## Methods:

In this pilot prospective block randomized trial, patients in the control group received routine care, whereas the intervention group received a combined written and verbal prescription for moderate exercise (150 minutes/week). Both groups were followed up by phone at 2 months. The primary outcome was achieving 150 min of exercise per week. Secondary outcomes included change in exercise, and differences in reported median weekly exercise. Comparisons were made by Mann-Whitney and Fishers tests (GraphPad).

## Results:

We recruited 28 ED patients. Follow up was completed for 23 patients (11 Control; 12 Intervention). Baseline reported median (with IQR) weekly exercise was similar between groups; Control 0(0-0) min; Intervention 0(0-45) min. There was no difference between groups for the primary outcome of 150min/week at 2 months (Control 3/11; Intervention 4/12, RR 1.33 (95%CI 0.38-4.6; p=1.0). There was a significant increase in median exercise from baseline in both groups, but no difference between the groups (Control 75(10-225) min; Intervention 120(52.5-150) min; NS). Further analysis revealed that 3 control patients had been given an exercise prescription (as part of routine care). A post hoc comparison of patients receiving intervention vs. no intervention, revealed a significant increase in patients meeting the primary target of 150min/week (No intervention 0/8; Intervention 7/15, RR 2.0 (95%CI 1.2-3.4); p=0.05).

**Conclusion:** Recruitment was feasible, however our study was underpowered to quantify an estimated effect size. As a significant proportion of the control group received the intervention (as part of standard care), any potential measurable effect was diluted. The improvement seen in patients receiving intervention and the increase in reported exercise in both groups (possible Hawthorne effect) suggests that exercise prescription for ED patients may be beneficial.

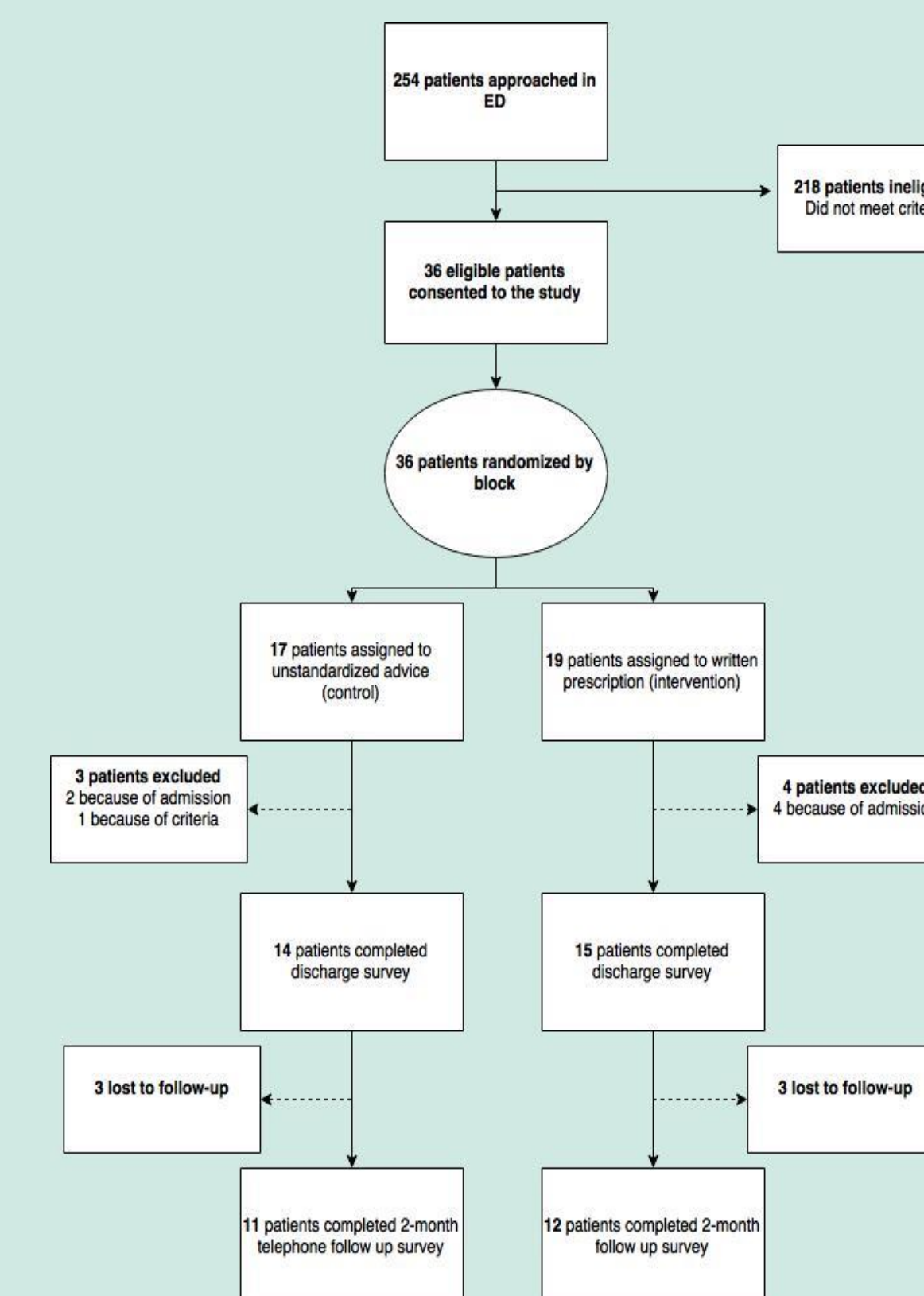


Figure 1: CONSORT diagram describing block randomization of patients

	Group A	Group B
<b>Patient characteristics</b>		
Total participants included, n	14	14
Total lost to follow up, n	3	2
Age, year, mean	57	57
Gender, female, n	3	11
<b>Chronic health conditions</b>		
Hypertension, n	8	5
Type 2 Diabetes, n	1	2
Both HTN and T2DM, n	2	2
Neither HTN nor T2DM, n	3	5
<b>Education</b>		
Did not complete high school, n	0	1
High school or GED, n	9	3
Bachelors/college, n	5	8
Masters or above, n	0	2
<b>Work</b>		
Unemployed, n	0	0
Part time employment, n	1	2
Full time employment, n	6	5
Retired, n	5	4
Other, n	2	3

Table 1: Baseline patient characteristics

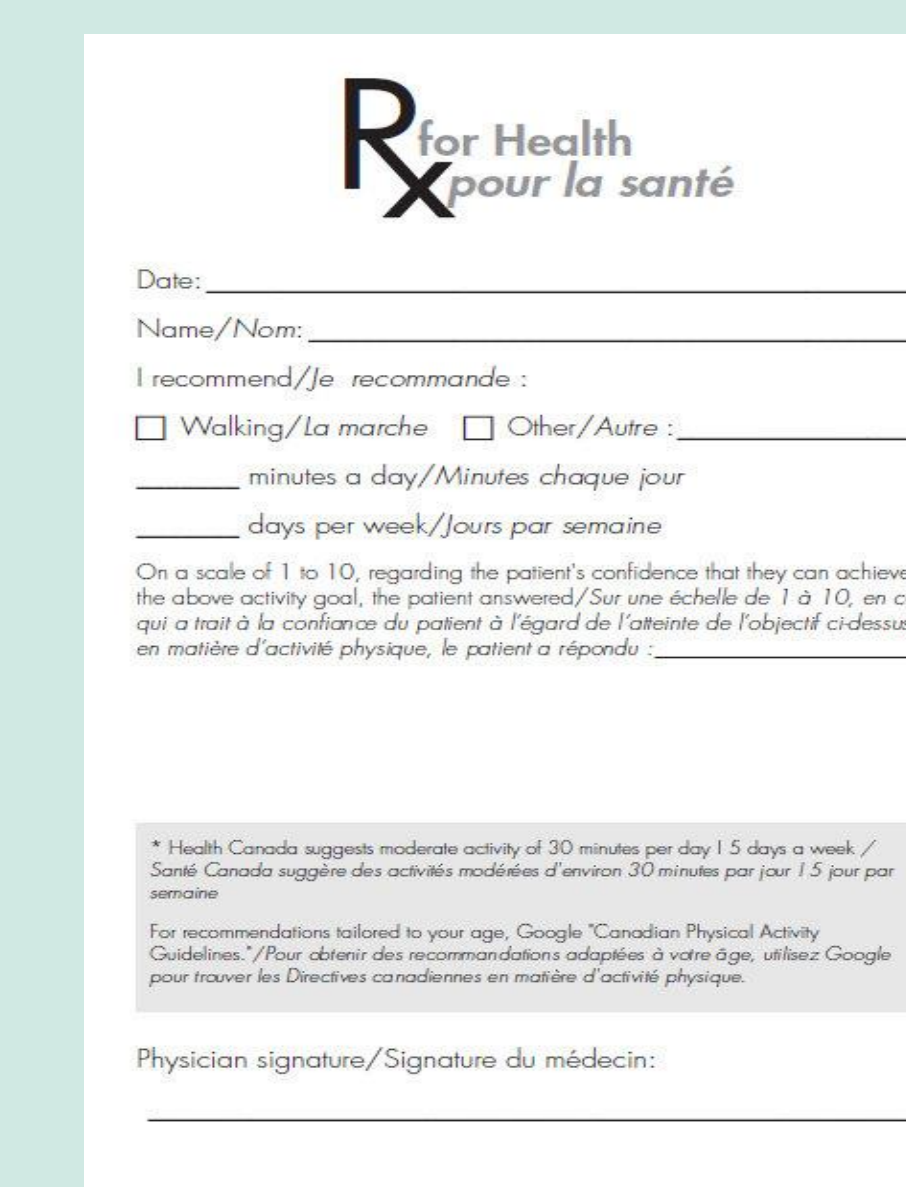


Figure 2: NBMS Exercise prescription distributed to patients

ID	Baseline exercise, min/week	Was exercise prescribed? Y/N	Average weekly exercise at 2 month follow up, min/week	Met primary outcome, n	Secondary outcome - net change, min/week	Weekly exercise increased by 30 mins, n
1	75	N	75		0	
2	0	N	30		30	1
3	0	N	100		100	1
4	0	Y	360	1	360	1
5	0	N	10		10	
6	0	Y	560	1	560	1
7	20	N	0		-20	
8	0	N	120		120	1
9	0	N	20		20	
10	0	N	0		0	
11	0	Y	225	1	225	1
<b>Median = 0</b>	<b>Total 3/11</b>	<b>Median = 75</b>	<b>Total 3/11</b>	<b>Median = 30</b>	<b>Total 6/11</b>	

Table 2: Control group individual results

ID	Baseline exercise, min/week	Was exercise prescribed? Y/N	Average weekly exercise at 2 month follow up, min/week	Met primary outcome, n	Secondary outcome - net change, min/week	Weekly exercise increased by 30 mins, n
12	0	Y	120		120	1
13	60	Y	140		80	1
14	0	Y	100		100	1
15	0	Y	150	1	150	1
16	0	Y	120		120	1
17	0	Y	350	1	350	1
18	0	Y	0		0	
19	0	Y	60		60	1
20	30	Y	150	1	120	1
21	0	Y	0		0	
22	65	Y	180	1	115	1
23	90	Y	50		-40	
<b>Median = 0</b>	<b>Total 12/12</b>	<b>Median = 120</b>	<b>Total 4/12</b>	<b>Median = 107.5</b>	<b>Total 9/12</b>	

Table 3: Intervention group individual results