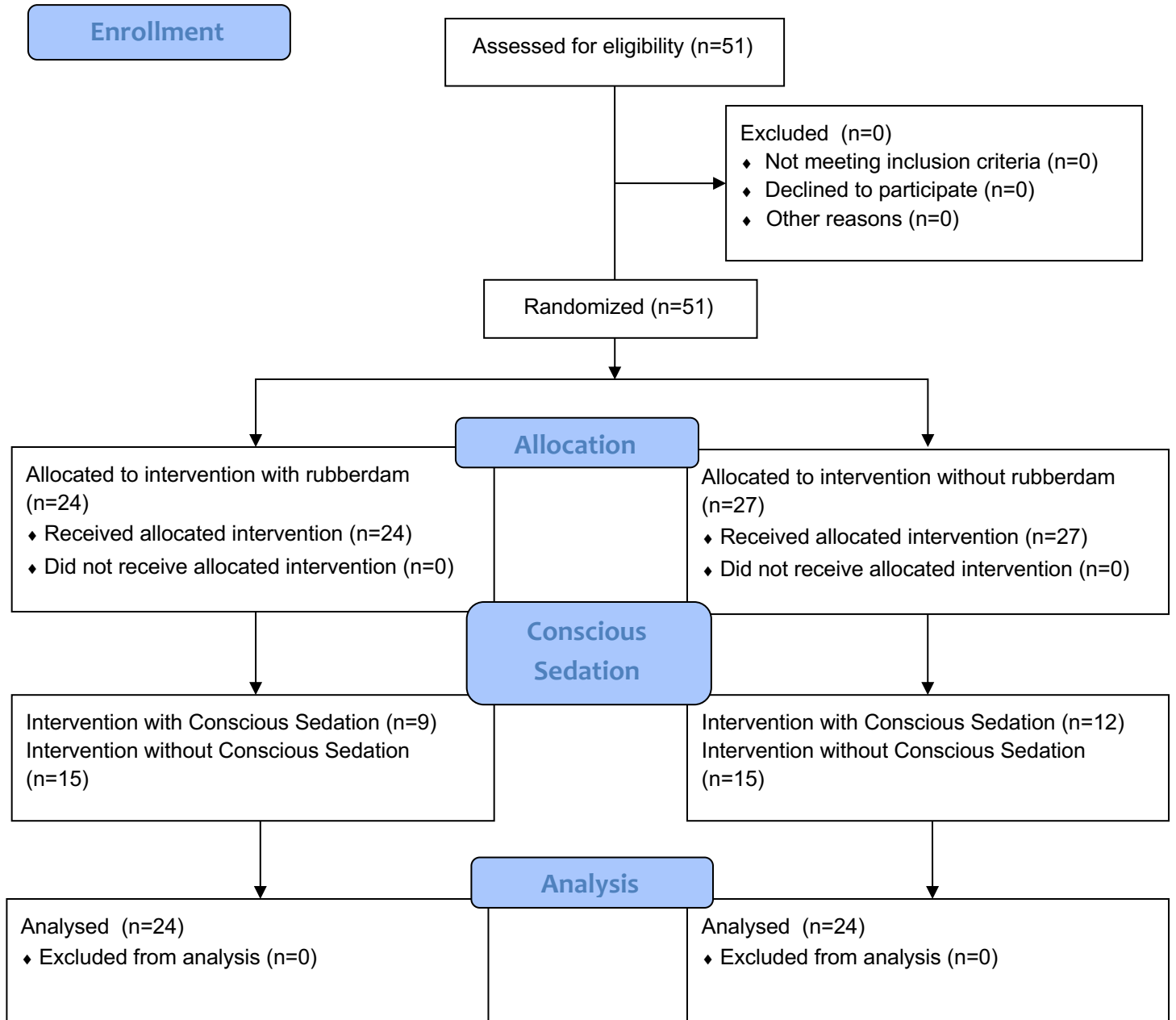


## Participant Flow



## Baseline Characteristics

**Table 1.** Overview of the cohort properties, per total of patients or different subgroups at start of the experiment. Difference between CR and RD groups were tested, and results are given with the applied test (X<sup>2</sup>: chi<sup>2</sup>, t: student's t-test, MW: Mann–Whitney test).

Variable	CR Group	RD Group	Total/Mean	p Value
n	27	24	51	-
Girls (n)	8	13	21	X <sup>2</sup> , <i>p</i> = 0.08
Boys (n)	19	11	30	
Care with CS (n)	12	9	21	X <sup>2</sup> , <i>p</i> = 0.78
Care without CS (n)	15	15	30	
Mean age (years ± SD)	6.22 (1.81)	6.92 (1.73)	6.55 (1.81)	t, <i>p</i> = 0.18
Invasiveness (median, IQR)	3 (2; 5)	3 (3; 5.5)	3 (3; 5)	MW, <i>p</i> = 0.48
Behavior T0 (median, IQR)	0 (0; 1)	0 (0; 1)	0 (0; 1)	MW, <i>p</i> = 0.84
Heart rate T0 (min <sup>-1</sup> ± SD)	88.67 (12.97)	88.54 (12.68)	88.6 (12.96)	t, <i>p</i> = 0.97

## Outcome measures

**Table 2 :** (a): Heart rate (min<sup>-1</sup>) during the treatment with rubber dam (RD) or cotton-roll (CR) isolation at the different time points: T0: before intervention, T1 after local anesthesia, T2: before rubber dam placement, T3: after rubber dam placement, T4 during procedure. (b): Venham scale recorded at the same time points.

Table 2.a.	Heart Rate	NA	Minimum	Maximum	Mean	SD
<b>RD Group</b>	T0	24	63	113	88,54	12,948
	T1	24	59	115	94,67	11,627
	T2	24	60	114	91,33	12,641
	T3	24	61	113	87,13	14,579
	T4	24	65	120	88,79	15,632
<b>CR Group</b>	T0	27	65	115	88,67	13,22
	T1	27	70	120	97,04	14,774
	T2	0				
	T3	0				
	T4	27	71	130	99,7	15,236

Table 2.b.	Behavior	N	Minimum	Maximum	Mean	Std. Deviation
RD Group	T0	24	0	3	0,63	0,875
	T1	24	0	3	1,08	0,83
	T2	24	0	3	0,75	0,897
	T3	24	0	2	0,46	0,721
	T4	24	0	3	0,75	0,897
CR Group	T0	27	0	2	0,56	0,577
	T1	27	0	3	1,04	0,808
	T2	0				
	T3	0				
	T3	27	0	5	1,3	1,137

**Table 3.** Behavior according to Venham (VS) and Cardiac frequency (CF) comparisons for subgroups undergoing procedures with or without conscious sedation. *p*-value concerns CR and RD groups for part 1 and 3 and before and after rubber dam placement in RD group for part 2 according to t Student test.

Part 1: Before (T0) and during the Treatment (T4)			
	CR group	RD group	
Mean difference (95% CI)	T4-T0	T4-T0	<i>p</i> value
VS	0.74 (0.35; 1.13)	0.13 (-0.31;0.56)	0.034
CF	11.04 (7.38; 14.69)	0.25 (-4.96; 5.46)	0.001
Part 2: Before (T2) and after Rubber dam Placement (T3) in RD Group			
Mean (SD)	Before Dam	After Dam	Statistics
VS	0.5 (0;1)	0 (0;1)	MW, <i>p</i> = 0.02
CF	91.33 (12.37)	87.13 (14.27)	<i>t</i> , <i>p</i> = 0.003
Part 3: Before (T0) and during Treatment (T4) with and without Nitrous Oxide Conscious Sedation (CS)			
	CR group	RD group	
Mean (SD)	T4-T0	T4-T0	Statistics
VS	CS	1 (0; 1) <sup>*,a</sup>	KW, <i>p</i> < 0.05
	No CS	1 (0; 1) <sup>*,a</sup>	
CF	CS	13.1 (8.6; 17.6) <sup>*,a</sup>	ANOVA, <i>p</i> < 0.01
	No CS	9.4 (3.5; 15.3) <sup>*,a</sup>	

<sup>a, b</sup>: Superscript letters denote groups not significantly different from each other (*p* > 0.05) <sup>\*</sup>: difference > 0, one-sample test, *p* < 0.05.

## Adverse events

There were no adverse events associated with this trial.