

# Short post-infusion scalp cooling still prevents docetaxel-induced alopecia

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## Background

- Scalp cooling:
  - Mostly positive outcomes in alopecia reduction, particularly in docetaxel
  - Is applied before, during and after chemotherapy infusion
  - Result depends on a.o. type & dose of cytotoxics & number of cycles
- Results in docetaxel were similar when randomising between 90 & 45 minutes post-infusion cooling times (PICT)<sup>1</sup>

## Preliminary results

### Patient characteristics

- 141 patients included in the study, 104 available for evaluation
- 57% male, 10% treated in the adjuvant setting, 72% dosage 75 mgr/m<sup>2</sup>
- 44% prostate, 29% breast, 21% lung, 6% other
- 69% monotherapy, 31% combined with capecitabine/ carboplatin/ gemcitabine

## Conclusion

- Good hair preservation and tolerance of scalp cooling in 3-weekly docetaxel schemes, even if the PICT is reduced from 45 to 20 minutes
- Although docetaxel's half-life time is rather long, PICT can be very short
- Shorter PICT declines the burden of scalp cooling for patients & is an advantage for time schedules at day care units
- Exact advantage of scalp cooling is still unknown, because the incidence of chemotherapy-induced alopecia is unknown
- PICTs should not be based on pharmacokinetics, but on clinical studies
- Useful method: new research model in which the patient is its own control-> reducing number of determinants to one factor= PICT

## Methods

- Aim: Effectiveness of scalp cooling when randomising between 45 and 20 minutes PICT (NTR1856)
- 3-weekly docetaxel regimens, infusion time 60 minutes
- Mono- or combination therapy (except TAC scheme), docetaxel 75-100 mgr/m<sup>2</sup>
- In 14 hospitals
- Scalp cooling using Paxman system, 30 min. pre-cooling time
- Endpoint: head cover (incl. wig)
- Tolerance on Visual Analogue Scale (VAS), range 0 (bad) – 100 (good)

## Results

- 45 minutes PICT: 79% (n=56) no head cover
- 20 minutes PICT: 75% (n=48) no head cover
- Mean VAS (n=496 cycles): 63
- Headache (n=392 cycles): 86% no, 11% mild, 3% moderate/severe
- 5% stop because of intolerance

Table 1 Results of scalp cooling after 90/ 45/ 20 minutes PICT

Study	PICT (min)	n	% no head cover
Previous study <sup>1</sup>	90	38	79
	45	38	95
This study	45	56	79
	20	48	75



[www.hoofdhuidkoeling.nl/](http://www.hoofdhuidkoeling.nl/) [www.scalpcooling.nl/](http://www.scalpcooling.nl/) [www.geefhaareenkans.nl](http://www.geefhaareenkans.nl)

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<sup>1</sup> Hurk van den CJG, Breed WPM, Nortier JWR. Short post-infusion scalp cooling time in the prevention of docetaxel-induced alopecia. Supp Care Cancer 2012; 20(12):3255-60