

**Table S1:** Inclusion and exclusion criteria.

<b>Inclusion criteria</b>	<b>Exclusion criteria</b>
Children <3 years	Children >3 years
Hospitalised	Premature birth (gestational age < 37 weeks) or < 3 kg
Stable vital signs	Metabolic, hepatic, or renal diseases
Central catheter	Cardiorespiratory or neurological impairment
Parents or guardians provided informed consent	Atopic dermatitis, damaged skin at patch site, hypersensitivity to lidocaine/tetracaine/sulphites/adhesives/related anaesthetics <sup>42</sup>
	Methaemoglobinemia <sup>25</sup> or anaemia (Hb <11 g/dL or Hct < 30%)
	Lidocaine/tetracaine exposure within 24h
	History of cocaine/drug exposure (incl. via breastfeeding)
	No informed consent

Table S2: Scheduled samples and evaluations/monitoring

Time points	t <sub>-15</sub>	t <sub>0</sub>	t <sub>15</sub>	t <sub>30</sub>	t <sub>60</sub>	t <sub>120</sub>	t <sub>240</sub>
Minutes relative to patch application	-15	0	15	30	60	120	240
Informed Consent by a legal guardian	x						
Patch application		x					
Patch removal				x			
Blood sample	x		x	x	x	x	x
Evaluation of local skin	x	x	x	x	x	x	x
Evaluation of systemic effects	x	x	x	x	x	x	x
Evaluation of ease of use		x	x	x			

Table S3: Assessment of topical adverse reactions according to a primary skin irritation scoring system. -> [supplementary](#)

Score	Erythema	Oedema	Blanching
0	no	no	no
1	very slight (barely perceptible)	very slight	very slight (diffuse with indistinct outline)
2	mild	mild (<1mm raised)	more intense (
3	moderate	moderate (>1mm raised)	marked (with distinct outline
4	severe (beet redness, injuries in the depth of the skin)	severe (>1mm raised beyond area of patch application)	severe (with a clear outline)