

# **Effect of Varied Temperature Dialysate on Small Sized Toxins Removal in Haemodialysis Patients**

*Thesis*

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## LIST OF ABBREVIATIONS

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<i>Abbr.</i>	<i>Full Term</i>
<b>AV</b>	Arterio-Venous
<b>BRs</b>	Baroreflex sensitivity
<b>Creat</b>	Creatinine
<b>Deg</b>	Degree
<b>HD</b>	Haemodialysis
<b>HDF</b>	Haemodiafiltration
<b>IDH</b>	Intradialytic hypotension
<b>Kt/V</b>	Dialyzer Clearance X Time of Dialysis / Volume of Body Fluid
<b>LV</b>	Left Ventricle
<b>MRI</b>	Magnetic Resonance Imaging
<b>Pt</b>	Patient

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<i>Abbr.</i>	<i>Full Term</i>
<b>SD</b>	Standard Deviation
<b>Temp</b>	Temperature
<b>U</b>	Urea
<b>UF</b>	Ultra-filtration
<b>U<sub>post</sub></b>	Postdialysis Urea
<b>U<sub>pre</sub></b>	Predialysis Urea
<b>URR</b>	Urea Reduction Ratio
<b>PASW</b>	Predictive Analytics SoftWare

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# INTRODUCTION

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Improving toxin removal can potentially improve the hemodialysis (HD) patient outcome. HD procedure progressed from low efficiency low-flux dialysis to high efficiency high-flux dialysis and currently towards increased acceptance for convection based hemodiafiltration (HDF). However, in all these extracorporeal renal replacement therapies, toxin removal is primarily impaired by inter-compartmental resistance (**Ward, *et al.*, 2006**).

Dialysate temperature is an easy maneuver which can change the blood temperature, a surrogate of body core temperature. Warm dialysate can increase the body core temperature, resulting in vasodilation and increased mobilization of sequestered toxins to intravascular compartment (**Selby and McIntyre, 2006**).

Cool dialysate induced vasoconstriction may reduce the toxin mobilization from remote inaccessible body compartments to intravascular compartment, thus hindering the toxin removal, which is contrary to the fundamental objective of HD. Hence, although cool dialysate helps in prevention of intra-dialytic episodes in short-term, prolonged usage may lead to poor patient outcome by impaired toxin removal (**Duranton, *et al.*, 2014**).



# AIM OF THE WORK