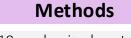
## MACHINE PERFUSION FOR LIVER TRANSPLANTATION

Can machine perfusion improve clinical outcomes and expand donor liver availability?

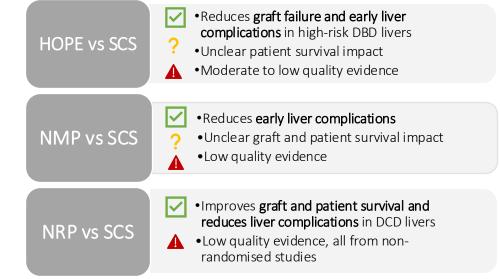
## What is Machine Perfusion?

		Meta-analysis of 10 randomized co		
Machine perfusion is a novel technique to better preserve donor livers, particularly high-risk livers, using oxygen-rich fluids rather than storing them on ice.			Population	Recipients of hig after circulatory
There are three types of machine perfusion: 1. Hypothermic oxygenated machine perfusion (HOPE): cold preservation		ÍÍÌ	Intervention	HOPE; NMP; NRF
<ul> <li>with oxygen</li> <li>Normothermic machine perfusion (NMP): warm perfusion with oxygen</li> <li>Normothermic regional perfusion (NRP): warm perfusion done inside</li> </ul>		Ū	Comparator	Standard cold sto
the body before organs are removed.	Mayo Clinic		Outcomes	Patient survival, complications
Clinical Effectiveness	Impact on donor pool			Conclusio
<ul> <li>HOPE vs SCS</li> <li>→ Reduces graft failure and early liver complications in high-risk DBD livers</li> <li>→ Unclear patient survival impact</li> <li>→ Moderate to low quality evidence</li> </ul>	42% of discarded livers potentially salvageable in	<ul> <li>The TAU Policy Committee approved the fol</li> <li>There is justification for considering the perfusion technologies within the transimprove clinical outcomes and address shortage. A cost-effectiveness analysis a</li> </ul>		
•Reduces early liver complications	Quebec.		0	1



	Meta-analysis of 10 randomized controlled trials (n=1513)				
	Population	Recipients of high-risk livers including donation after circulatory death (DCD) or brain death (DBD)			
<b>í</b> ííi	Intervention	HOPE; NMP; NRP			
ΔŢΛ	Comparator	Standard cold storage (SCS)			
Ø	Outcomes	Patient survival, graft survival, graft-related liver complications			

## Clinical

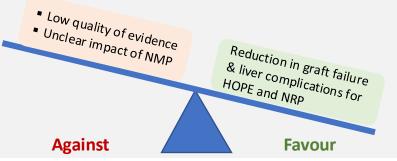


A UK trial found that 71% of previously discarded livers were successfully transplanted using NMP.

## ons

ollowing recommendation:

he implementation of machine nsplant program in Quebec to ss the critical issue of organ at the provincial level is needed.



Health Technology Assessment Unit (TAU) https://muhc.ca/tau

-37 **McGill University** Centre universitaire de santé McGill **Health Centre**