

# Test for shape dependence for the HSCT data

Covariates available in the dataset are:

**age** scaled

**race** 1 = white, 0 = otherwise

**gender** 1 = male

**allo** 1 = allogeneic, 0 = autologous

**lym** 1 = lymphomas disease at transplant

**heme1** 1 = heme at remission, 0 = otherwise

**heme2** 1 = heme at relapse, 0 = otherwise

**cmv1** 1 = receiver negative, 0 = otherwise

**cmv2** 1 = receiver and donor both negative, 0 = otherwise

Table 1: Different combinations and the testing results. The  $p$ -value is approximated with  $n = 100$  bootstrap samples.

covariates									$p$
age	race	gender	allo	lym	heme1	heme2	cmv1	cmv2	
✓			✓						0.63
	✓		✓						0.11
		✓	✓						0.14
			✓	✓					0.41
			✓		✓				0.35
			✓			✓			0.42
			✓				✓		0.32
			✓					✓	0.08

Table 2: Different combinations and the testing results. The  $p$ -value is approximated with  $n = 100$  bootstrap samples.

covariates									$p$
age	race	gender	allo	lym	heme1	heme2	cmv1	cmv2	
✓	✓		✓						0.46
✓		✓	✓						0.34
	✓	✓	✓						0.05
		✓	✓	✓					0.06
✓			✓	✓					0.67
		✓	✓					✓	0.10
		✓	✓			✓			0.17
✓			✓		✓				0.52
✓			✓			✓			0.46
✓			✓				✓		0.74
✓			✓					✓	0.22
✓		✓	✓						0.32
		✓	✓		✓				0.34
		✓	✓			✓			0.35
		✓	✓				✓		0.28
		✓	✓					✓	0.09
			✓		✓			✓	0.09
			✓		✓		✓		0.58
			✓			✓		✓	0.20
			✓			✓	✓		0.54

Table 3: Different combinations and the testing results. The  $p$ -value is approximated with  $n = 100$  bootstrap samples.

covariates									$p$
age	race	gender	allo	lym	heme1	heme2	cmv1	cmv2	
	✓	✓	✓	✓					0.12
✓		✓	✓	✓					0.32
✓	✓	✓	✓						0.54
		✓	✓			✓		✓	0.17
✓	✓		✓	✓					0.66
	✓		✓			✓		✓	0.28
✓			✓			✓		✓	0.38
✓		✓	✓					✓	0.32
			✓	✓		✓		✓	0.29
	✓	✓	✓			✓			0.22
	✓	✓	✓					✓	0.32
✓			✓		✓		✓		0.39
✓		✓	✓			✓		✓	0.37