

# [An (2016) considered the effects of gloves on](https://assignbuster.com/an-2016-considered-the-effects-of-gloves-on/)

[Design](https://assignbuster.com/essay-subjects/design/)

An inability to detect a pulse isthe most common reported reason for not donning gloves. A study by Mylon et al. (2016) considered the effects ofgloves on pulse detection using a design whereby water is pumped through one offive tubes under a layer of neoprene sponge using a peristaltic pump. Theyfound significant differences in ability to feel the ‘ pulse’ in gloved andungloved conditions. The authors note that this cannot accurately simulate apulse test due to the pump limitations on the speed and pressure.

Also, therewas the potential for bias due to the inability to vary the pulse location. Using a pump to get to the same pressure and speed of blood would be moresimulative of the real world. Overall, most of studies go to show that tactilesensitivity is reduced when gloves are worn, but the extent to which thisbecomes a detriment to a patient is unknown. 1.

DexterityDexterity is defined as theability to carry out tasks using motor skill, moving the hands, fingers andarms. The conformity of bending of the hands and fingers, material folding, andthickness are the main areas affecting dexterity, (Dianat et al., 2012). Together these can affect the ability of surgeons tocarry out tasks and manipulate objects with fine skill. Numerous dexteritytests have been developed, as shown in Table 2.

Widely used in these studies, are the Purdue Pegboard and the Crawford Small Parts Dexterity Test (CSPDT). Described by (Tiffin and Asher 1948) the Purdue pegboard test is designed to assesshow many pegs can be placed into a board in the time set using both hands andeach hand separately. Washers can also be placed on the pegs in the test toallow further assessments. The CSPDT test requires the placement of the pinswith the use of tweezers, assessing finer dexterity. The results generally showthat dexterity is affected when thicker or double gloves are worn (Moore et al., 1995; Chen et al., 1998; Pourmoghani, 2004; Sawyer and Bennet, 2006 Gnaneswaran etal.

, 2008; Berger etal., 2009; Drabeket al., 2009; Fry et al., 2010; Johnson et al.

, 2013; Mylon et al., 2016 and Park etal., 2016). Although not muchof a difference is observed. vinyl shows more of a decrease in dexterity whilstlatex shows minimal. Francis et al.(2001) and Hamstra and Dubrowksi (2005) demonstrates the varied skill ofprofessionals is a factor. They found students has less dexterity and droppedmore pins than experienced surgeons.

Gauvin etal. (2006) states that these tests are of a good enough sensitivity tomeasure performance difference and discriminate between gloves. However, thereare numerous issues with these tests. The primary issue being that the frictionof each person’s hand is different in the ‘ no gloves’ variable due to sweat andoils on the fingers.

No mention of washing the pegs or hands is present in anyof the literature. Many of these studies include the NHS first choice gloves: nitrile and latex as well as gloves that are not commonly used such as butyland Vinyl (Pratt et al., 2007).