GRAEME STEVENSON

Is ping pong bad for our (ocular) health?

It is widely accepted that sport and exercise are good for our health. However, this has not always been the case, with certain sports regarded as having a negative impact on the eyes. Reports from the early 20th century indicate that the sport of table tennis – or ping pong – can put a strain on the eye muscles.

An article from the *San Francisco Call* on 1 June 1902[1] talks about eye strain and other fanciful diseases caused by ping pong (**Figure 1**). A newly popular sport at the time, it allegedly became known for causing 'ping pong ankle', 'ping pong back' and 'ping pong wrist'. The author speculated that those who were able to "return the ball 100 times or so" rarely suffered any issues of the body, though the "tyro" who bends to pick the balls was likely to suffer from tendosynovitis (back pain).

However, whilst the previously mentioned conditions are more likely to affect the poorer player, the author claimed that almost all players would experience inflammation of the eye. Exactly what part of the eye would become inflamed is not clear from the article. The author went on to mention that the constant watching of the ball was liable to cause irritation to spread from the overworked optical muscles. Apparently, sufferers of 'ping pong eye' often experienced a bloodshot eye with the only cure being rest.

Also in 1902, two young Indianapolis women were reported to have hit a ping pong ball 551 times across the net without missing[2]. However, they claimed they could have done more had it not been for 'ping pong eye', which they claimed had led to them seeing 10 or 11 balls coming over the net at once. Quite how anyone would see such an amount of balls is hard to believe even more than 100 years ago.

Figure 1: Ping pong eye strain was recognised in 1902

The colour of the table at that time was green, as it was regarded as being easy on the eye. The ball was described as a dazzling white, which is best for contrast although harder on the eyes. An expert at the time was quoted as saying: "There can be no doubt, that the constant watching of the ball tends to aggravate a weakness of the eyes. The moving of the muscles which controls the eyes wearies after an ordinary game"[2].

Marty Reisman was an American table tennis player and well know hustler who played for cash in the 1960s and 70s[3]. Sadly for Marty, he suffered from terrible ocular migraines which could be brought on by playing table tennis. However, he could always feel such migraines coming on and knew he couldn't play when suffering. Always the hustler, Marty would offer his opponents a way out by accepting a lower than normal purse if they called it quits there and then.

CHANGING DYNAMICS

The game of table tennis has changed significantly since that 1902 article. Games are now played on either a blue or green table and the balls may be white or orange (**Figure 2**). Another major change within the sport of table tennis was that in 2000, the size of the ball increased from 38mm to 40mm. Perhaps this was done to ease the strain on the eyes?

FIGURE 2: BALLS ARE NOW BIGGER AND OFTEN ORANGE

Sadly, this was not the case: the change was made to make the sport more appealing to a television audience and ultimately for commercial reasons. The larger ball would slow down the game, as recent advances in equipment had made the sport even faster than before.

There are few studies looking at the vision of table tennis players. However, these tend to show that elite table tennis players have better dynamic visual acuity, a wider visual field and superior recognition of peripheral targets when compared to less skilled competitors[4]. This is typical of elite athletes who often have better physical attributes all round when compared with the typical population.

Of course, there is huge debate over the benefits of sports vision training in modern sport. Interestingly, the role of the sports vision therapist seems to have been embraced by sports psychologists as opposed to optometrists. However, a number of optometrists have specialised in sports vision and many work with top football and cricket teams.

Given that there are a large number of people who make a living from their chosen sport, we could argue that sports vision is simply a variation on work specific advice. Such are the small margins involved in top level sport that any advantage gained by an individual is worth pursuing by whatever legal means possible.

In 2015, German scientist Dr Gernot Jendrusch looked at the dynamic visual acuity of the world class table tennis player Timo Boll, comparing his vision to that of a normal person, an amateur table tennis player and a crack Lutwaffe fighter pilot[5]. Interestingly, Timo Boll had by far the best dynamic vision of all four – with little difference between the other three.

However the amateur table tennis player had better dynamic acuity than the pilot, proving that ping pong is perhaps good for the eyes and not the reverse as was once thought. Boll could actually read the numbers printed onto a table tennis ball, even with high levels of spin on the ball.

In recent months, table tennis forum users have been commenting on the Japanese player, Jun Mizutani, who has been pictured wearing spectacles whilst practising. The photographs look like he is wearing prescription lenses with a tint or filter. There is huge debate around the use of such filters – and interestingly he seems to only wear the spectacles in certain lighting conditions. They are possibly nothing more than occupational lenses with a specific tint.

Such tints and filters can be very useful in certain conditions and, with the recent introduction of Acuvue Oasys Transitions contact lenses, we now have more options than ever for our patients who are 'bothered by light'. Table tennis does give eyecare professionals and presbyopic players alike a little bit of a problem. Dynamic vision is required from less than one metre to three to five metres away at a variety of different angles and distances. In my experience of playing table tennis, single vision distance or intermediate spectacles tend to work best.

There is also some recent research showing that table tennis provides benefits to dementia sufferers[6]. It appears that playing table tennis stimulates overall awareness and enhances the player's motor skills to effectively improve the function of the brain.

We know that as we age our ability to separate colours clearly diminishes and, when combined with dementia, adversely affects one's ability to see and differentiate objects. With this in mind, Bounce Alzheimer's Therapy (BAT) Foundation – a national charity investigating the benefits that table tennis can have on those living with Alzheimer's – has linked with the Dementia Services Development Centre in Stirling to design a table tennis table that delivers a more effective experience for those in the early stages of Alzheimer's disease.

The table is white and uses a larger orange ball, which increases the contrast. Table tennis improves hand eye coordination as well as being a very social game which we know is key to wellbeing and happiness.

Many would argue that the best training we can do for any sport or hobby is quite simply to practice more. Malcolm Gladwell is widely regarded as the proponent of the idea that 10,000 hours of practice is required to make one an expert in their chosen activity. Perhaps we should leave the last word to the golfer Gary Player: "The more I practice the luckier I get".

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Figure 1 courtesy of Jorge Arango (COL), and Table Tennis Collector 77, Chuck Hoey, Editor.

GRAEME STEVENSON FBDO CL is a contact lens optician in Glasgow though would rather be playing table tennis.