



Golf and Health 2016-2020.



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The health benefits of playing golf are significant.

It is a sport that can be played from the age of four to 104. It can be played in the fresh air in the great outdoors, in many different forms and even indoors too. It allows golfers to enjoy a form of exercise, as well as boosting their mental wellbeing in a social environment. Even following your favourites by walking at golf events is good for you.

These facts alone have long been known by golfers themselves. However, it is important to educate those beyond the sport about its many health benefits, including non-golfers, public health professionals and governments.

As two-time Champion Golfer of the Year, Padraig Harrington, said, "People who play golf do realise the benefit of it. But the wider public doesn't understand it – the health benefits of playing golf for your physical and mental health. I have seen how impactful golf can be on peoples' wellbeing; now it is time to get the message out there."

Put simply, golf has underplayed its health benefits. Against a background of busy modern lives, competing interests and more sport and leisure pursuits than ever, golf has perhaps not effectively positioned itself as a health-enhancing activity that can be enjoyed by people of all ages, abilities and backgrounds.

Nevertheless, an opportunity exists for golf. An epidemic of physical inactivity-related disease in most of the world's populations – physical inactivity is responsible for more than

three million deaths worldwide – has led to the World Health Organization (WHO) calling for action by sports.

Since 2016, The R&A and its partners, including the World Golf Foundation (WGF), the United States Golf Association (USGA) and the European Tour, have sought to: raise awareness of the health benefits of golf to encourage interest in participation by people of all ages and abilities; improve the sport's image; and increase advocacy for golf by government agencies and public health bodies.

The Golf & Health Project, supported by The R&A and the other WGF partners, was formed to achieve these aims by producing and publishing high quality science that evidences golf's physical and mental health benefits to target existing golfers, non-golfers, golf bodies and policy makers in government and health.

Dr Roger Hawkes, a sport and exercise physician and former Chief Medical Officer of the European Tour and Ryder Cup Europe, is the Founder and Executive Director of the Project.



"People who play golf do realise the benefit of it. But the wider public doesn't understand it – the health benefits of playing golf for your physical and mental health. I have seen how impactful golf can be on peoples' wellbeing; now it is time to get the message out there."

PADRAIG HARRINGTON
Two-time Champion Golfer





“The scientific research clearly shows that there are significant physical and mental health benefits to be gained from playing golf. We believe that golf can provide a fantastic opportunity for people of all ages and abilities to have fun, get fit and socialise with family and friends – something that is important to today’s society.”

MARTIN SLUMBERS
Chief Executive of The R&A

The R&A has played a key role in the Project by part-funding research undertaken by Dr Andrew Murray of the University of Edinburgh, who is the lead research scientist. Dr Murray completed his PhD at the University of Edinburgh in 2020, where he was supervised by world leaders in exercise medicine. The leading sports medic is now Chief Medical Officer for the European Tour, advises the Scottish Government and has a role supporting WHO projects.

The R&A has also directly supported other activity, including being the sole funder of a Strength and Balance Study, sponsoring the First International Congress on Golf and Health and increasing communication of various activities to promote the benefits of golf for health.

Robust research, data and key findings have been regularly published in the world-leading international journal, the British Journal of Sports Medicine (BJSM), to support the principle that golf can lead to greater health and wellness benefits for participants and spectators attending events.

Martin Slumbers, Chief Executive of The R&A, said, “The scientific research clearly shows that there are significant physical and mental health benefits to be gained from playing golf. We believe that golf can provide a fantastic opportunity for people of all ages and abilities to have fun, get fit and socialise with family and friends – something that is important to today’s society.

“We need to position golf as a leisure pursuit that can be accessed and enjoyed by everyone and encourage advocacy for the sport as a moderate intensity physical activity by government agencies, public health bodies and health professionals.”

This report brings together what we know about the health benefits of golf. It details these benefits by summarising the scientific research, the public exposure and increased interest among national federations, policy makers and other organisations. A number of case studies highlight the impact of collective endeavours, spanning various countries and at leading professional events, with associated media coverage.

The future of golf and health is also assessed as the sport seeks to build on the foundations set in recent years and continues to attract more golfers onto courses and into facilities around the world.

By understanding the health benefits of golf, we can be healthier and happier as golfers and encourage others to take up the sport. The golf industry and facilities can also maximise the benefits by sharing the information to their audiences, while policy and decision makers can take key actions.

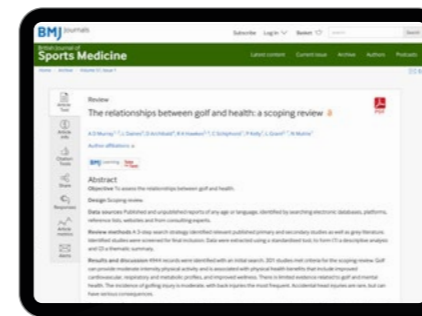
As Brooke Henderson, a Major Champion and a Golf and Health ambassador, notes, “I think it’s really important for people to realise how good golf is for you – not only your health physically, but also mentally and socially, being able to make friends out on the course and to connect with people. The sport offers so many health benefits.”

If you are a golfer, are thinking of taking up the sport or are keen to encourage others onto the fairways, then read on...

Knowledge is power.

It was Francis Bacon, one of the leading figures in natural philosophy, who coined this now-famous phrase in 1597. For golf to accurately highlight its physical and mental health benefits (and any illness or injury), it was important to research and review the existing scientific evidence.

The Scoping Review.



A scoping review to identify key concepts and gaps in research was published in October 2016 by the BJSM, the world-leading sports medicine journal, and proved crucial to understanding and raising awareness of golf’s health benefits. It was one of the most read and used scientific research papers of the year, generating interest in the health benefits of golf on a global scale.

Conducted at the University of Edinburgh, researchers reviewed 5,000 studies into golf and wellbeing and analysed in detail over 300 of the most relevant. The main findings from the Review highlighted that golfers enjoy longer lives, particularly as the sport can help prevent chronic diseases, improve mental health and boost social wellbeing.

Summary of findings

On average, golfers live five years longer than non-golfers

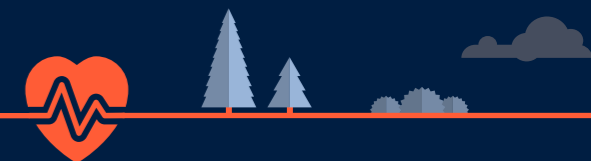
- Published in the Scandinavian Journal of Medicine and Science in Sports, a landmark study found a 40% reduction in mortality rates among 300,000 members of the Swedish Golf Federation, corresponding to an increase in life expectancy of about five years (this applied for both genders, all ages and all socio-economic groups)

Golf helps combat disease

- Golf, as a physical activity, can help prevent and treat 40 major chronic diseases, including diabetes, heart attacks, stroke, breast and colon cancer, depression and dementia. Other studies highlighted that risk factors for heart disease and stroke, such as cholesterol and blood pressure, are reduced in populations who play golf

Golf is a moderate intensity physical activity

- Highlighted by most sources, including the renowned international publication of physical activity quantification, ‘The Compendium of Physical Activities’, and recommended by policy makers worldwide including the WHO, the United States Department of Health and Human Services and UK Chief Medical Officers
- Moderate intensity activities are those that get you moving fast or strenuously enough to burn off three to six times as much energy per minute as you do when you are sitting quietly, so the acceptance of this for golf was significant
- Balance and muscle endurance in older people are improved by playing golf, while golf is also likely to improve cardiovascular, respiratory and metabolic health



Golf boosts social interaction

- Golf can help reduce the risk of anxiety, depression and dementia, improving an individual's wellness, self-esteem and self-worth
- A lack of social interaction can be addressed by golf participation. Social isolation has been shown to be the biggest health risk factor in a population of older people over a five-year period

Walking is better than cart use

- Walking and carrying clubs, or using a pull-cart, have much greater benefits than riding a golf cart

Benefits substantially outweigh the risks

- There are risks to golf participation, including injury and illness, but the rate per incidence is low and can be reduced by a seven-minute warm up
- Sun exposure in golf is high but this can be alleviated with appropriate sun cream protection. Exposure to fresh air and sun also helps boost Vitamin D levels

“Research has shown that golfers live up to five years longer than people who don't play golf. What is more important than being healthy? I think we should take time for golf. Together with the researchers and doctors, we're trying to tell policy makers, 'hey, pay attention to golf. It should be part of your programmes; golf should be top of your list as it is benefitting health.'”

ANNIKA SORENSTAM
Ten-time Major Champion and Golf and Health ambassador



“The Review demonstrates a wide variety of health benefits. Golf helps you live longer and be healthier and happier.

“Anyone can play of all ages and abilities and there are popular shorter formats, such as GolfSixes, to make the sport more accessible. We have to get away from the idea golf is only a rich man's sport – 75% of the courses across the world are available for the public to play on, not only members.”

DR ANDREW MURRAY
Lead Researcher for the Scoping Review

Impact of the Scoping Review

Highlighted the opportunity for increasing participation in golf

- More scientific knowledge, collaboration and networks to support participation in golf for health benefits

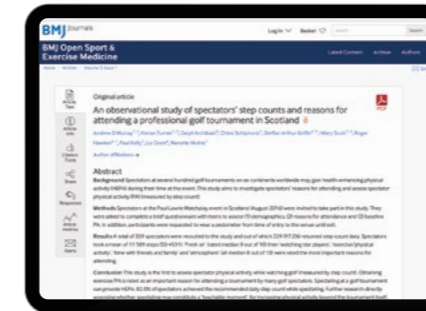
Robust science for policy makers

- The Review opened up channels of communication to the WHO and policy makers thanks to scientific evidence
- The Review was welcomed with an Early Day Motion in the UK Parliament by the Minister for Public Health

Wider awareness

- A communications campaign to raise awareness of golf's health benefits achieved coverage around the world, while the Review was shared by The R&A with over 150 affiliates spanning more than 140 countries
- It was presented at golf industry meetings and public engagements and translated into Spanish, German, Cantonese, Mandarin and Arabic

The Spectator Study.



Following the publication of The Scoping Review, other areas were identified to further highlight golf's health benefits, including from a spectator point of view.

Attending live sporting events is a favourite pastime for fans all over the world and is by no means reserved to golf. Events provide fans with an opportunity to get up close to the players, sharing the trials and tribulations of their sporting icons.

However, as most sporting events confine spectators to a seat, golf has long been regarded as unique in being the only mainstream sport that provides fans with health benefits – just like the players on show – through attending a professional or amateur event. Although intuitive, proof was required.

As part of the PhD study of Dr Andrew Murray and the Golf & Health Project, research on the health benefits of attending golf events achieved valuable results and confirmed that attending an event as a spectator is very beneficial for your health.

Summary of findings

- The research, published in July 2017, found that almost 83% of spectators at the 2016 Paul Lawrie Match Play at Archerfield Links in East Lothian met and exceeded the recommended daily step count, with the 339 fans in the study averaging 11,589 steps per day (people are generally recommended to walk 10,000 steps a day)
- Spectators walk between 5-6 miles on average and burn more than 1,000 calories per day
- Golf also allows spectators to spend time in green space and socialise with friends and family which are proven to have mental health and psychological benefits
- The study, published in the BJSM and BMJ Open Sport & Exercise Medicine, was the first to use pedometer data to assess golf spectators' physical activity and it found men took about 1,800 more steps each day than women
- Spectators also rated exercise and physical activity as important reasons for attending golf events and 60% said they would like to be more active



A scientific [follow-up paper](#) in the BMJ Open Sport & Exercise Medicine found that 40% of the spectators increased their physical activity during the three months after attending an

event, demonstrating that golf events can not only offer enjoyment and entertainment but also leave a legacy of improved health for attendees.



On a regular 18-hole course, most players will walk between four and five miles...

2



...burning up to

2,000

calories.



3



Impact of the Spectator Study

Robust science for policy makers

- The International Society for Physical Activity and Health (ISPAH) / WHO / International Olympic Committee all welcomed alignment to global policy
- The Scottish Government and UK policy makers indicated that the findings contributed to decision-making regarding support of events
- The study was highlighted at public health and sports academic conferences e.g. Planetary Health / International Sports Science and Sports Medicine Conference

Wider awareness for events

- Targeted information and infographics were provided to golf bodies who organise events, with meetings held with e.g. The R&A, the European Tour and the Asian Tour
- An increase in health information has been provided on big screens, information towers and other spectator signage at a diverse range of events such as The Open, AIG Women's Open, The Ryder Cup, The Solheim Cup, and events in Spain, Indonesia and China
- The study offered the opportunity for commercial third parties to contribute to the health narrative at future events. For example, spectators attending the 2018 Andalucía Valderrama Masters (third round) in Spain were invited to join the Walk & Win event, a ground-breaking European Tour initiative supported by QuirónSalud with the purpose of promoting healthy lifestyle habits amongst golf fans. Spectators could have a card stamped when they passed by the 5th hole and again on the 13th, before handing it in at the QuirónSalud tent, after having walked a total of over three-and-a-half miles

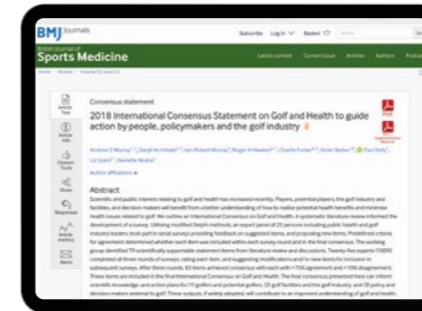


Spectators enjoy the 2019 Solheim Cup at Gleneagles

“Walking is one of the best things you can do for your health, adding years to life and increasing health and happiness. These pilot findings show golf spectators can experience physical activity to benefit their health while watching a top-quality sport at close quarters. This could have huge implications on event attendance and encouraging more people to attend a professional event or begin playing the sport.”

DR ANDREW MURRAY
Lead Researcher for the Spectator Study

The International Consensus Statement.



The 2018 International Consensus Statement on Golf and Health to guide action by people, policy makers and the golf industry was published in September 2018 in the BJSM.

The Statement helps players, potential players, the golf industry, facilities and decision makers benefit from a better understanding of how to realise potential health benefits and minimise health risks related to golf.

To assess the physical and mental health benefits of golf and propose ways to make the sport more accessible to a wider population, Dr Andrew Murray and more than 25 other experts in public health, health policy and industry reviewed data from 342 previously published studies on the sport.

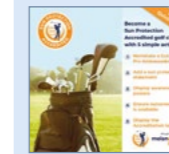
The Statement informed scientific knowledge and action plans for (1) golfers and potential golfers, (2) golf facilities and the golf industry, (3) policy and decision makers external to golf.



In May 2018, The R&A launched a Women in Golf Charter with the aim to increase women and girls' participation and membership in golf, encourage more families to enjoy golf as a leisure activity and encourage more opportunities for women to work and volunteer in the golf industry

Summary of findings

- Playing golf is associated with better strength and balance, a sharper mind, a lower risk of heart disease and a longer life, with more people encouraged to take up the sport
- To get the most benefit from the sport, golfers should play for at least 150 minutes a week and avoid riding in a golf cart. Players should also do warm-up and strengthening exercises to lower their risk of injury
- While an estimated 60 million people play golf at least twice a year, golfers are primarily middle-aged and older, affluent, male, white and living in North America, Europe and Australia
- Compared with other sports, the risk of injury in golf is moderate. As golf is an outdoor activity, golfers may have a higher risk of skin cancer than people who take up indoor sports or sports with less time outside and should use sunscreen when necessary



The Melanoma Fund is among organisations highlighting the importance of sun protection for golfers, including via its Slip! Slap! Swing! campaign

- Cost and perceptions of the sport may put some people off the idea of playing golf. The sport is also perceived as difficult to learn and unwelcoming to women, yet a number of women and girls' initiatives are assisting in this area
- Leaders in golf should make a greater effort to make the sport more inclusive and welcoming of people from all walks of life and ethnic backgrounds

Three key infographics were developed to help spread the messaging for golfers, the golf industry and policy makers:

- Playing golf can make you healthier and happier
- Actions for policy / decision makers
- What can the golf industry / facilities do to maximise the health benefits of golf?

[Click here for infographics and digital resources](#)



13,000 steps (depending where your ball goes!) can be walked during an 18-hole round...



...that's well over the 10,000 recommended daily average.



Impact of the Consensus Statement

Robust science for policy makers

The uptake, use and impact of the Statement has been considerable and a valuable tool to show that the golf industry is taking positive action.

Professor Fiona Bull, WHO Programme Manager, Non-Communicable Disease Prevention, said, "Golf is a popular sport for men and women and it's great to see golf's global leadership recognising health priorities and identifying ways golf can be more accessible to more people. I took up golf in my 30's but thought it was a very technical, expensive and elitist sport.

"Thankfully, a six-week 'come and try course' showed me how easy it was to enjoy golf as a beginner and how active playing nine holes can be! I'm looking forward to seeing how golf can attract many more girls and women to enjoy the sport and be more active and healthy."

Wider awareness

- A communications campaign generated 40 million reach in press and online, with social media coverage reaching over 1.6 million accounts
- Discussions were held with over 30 policy makers and alignment agreed with the WHO Global Action Plan for Physical Activity

"Physical activity of any type comes with a range of physical, social and mental benefits. For some, golf can be a great way to stay active and there's growing evidence about ways the sport can help those living with long term conditions such as Parkinson's and dementia. And for those who haven't discovered their favourite sport yet, it's never too late to get inspired, connect with people and improve your wellbeing."

STEVE BRINE

Former UK Parliamentary Under Secretary of State for Public Health and Primary Care

"Golf is the first sport to make a meaningful investment in looking at its risks and benefits of participation. Players, management and policy makers can now feel confident, not only that there are significant associated benefits from playing golf, but the golf club environment can provide a health enhancing and commercial opportunity."

DR ROGER HAWKES
Executive Director,
Golf & Health Project

First International Congress on Golf and Health, October 2018



Building on the Consensus Statement, The R&A sponsored the First International Congress on Golf and Health in London to increase interest and participation in the sport by helping players, potential players, the golf industry and policy makers understand what actions can lead to better health through golf. Golf and Health ambassador Annika Sorenstam supported the activity in London.

Evidence linking golf and health was presented at the 7th Congress of the International Society for Physical Activity and Health (ISPAH), the biennial scientific meeting. The ISPAH event included a breakfast meeting on the Health Benefits of Golf, together with public health practitioners and policy makers. Golf industry leaders also hosted a satellite event in the Palace of Westminster, supported by the All-Party Parliamentary Group for Golf.



A further Golf and Health Scientific Meeting was held at High Elms Golf Course, Bromley, a club promoting healthy lifestyles. Offering a forum to support and grow ideas, researchers from Asia, Australia, Europe and the USA discussed their respective projects and the future direction of research on golf and health.

Strength and Balance Study.

An international research study backed by The R&A has found new evidence to suggest golf can provide significant health benefits to older participants in the form of improved muscle strength and balance.

Muscle strength and balance exercises form an important part of the WHO's recommended guidelines to tackle physical inactivity in older people about which little was previously known for golf.

The Strength and Balance Study, carried out with two sample groups over two years by Professor Maria Stokes OBE at the University of Southampton and Dr George Salem at the University of Southern California (USC), has indicated that older golfers have and develop strength and balance benefits.

Underlining the sport's capability to improve the physical health of participants, the evidence suggests golf can improve quality of life through muscle strengthening, improved balance, aerobic exercise (equivalent to gym-based work or yoga) and social interaction.

The Southampton group involved 152 individuals aged 65-79 and over 80 and set out to demonstrate the physical and psychosocial benefits associated with playing recreational golf regularly by comparing physical measures between older golfers and sedentary non-golfers.

A study at the USC was undertaken to see if non-golfers developed these benefits while undertaking a 10-week instructional golf training programme.

The USC group involved 15 individuals aged 63 (+/- 5 years) at a municipal course in the greater Los Angeles area, which also examined the feasibility, safety and adherence of the programme for senior non-golfers.

Summary of findings

- Participants in the golf training programme improved their muscular strength, power, endurance, balance, flexibility and walking performance
- Golfers under the age of 80 had better strength and balance than sedentary non-golfers of similar ages
- Golfers had better dynamic balance and static balance than non-golfers
- Strength of limb muscles and balance were better in golfers than non-golfers e.g. indicative through gripping and swinging a club, walking, squatting
- The golf training programme was feasible and effective; novice golfers were able to play nine holes of golf by the 10th week and completed 282 of 300 (94%) total training sessions
- The physical demands recorded during a golf round were equivalent or greater than the demands for other common activities e.g. gym work or yoga
- Participants benefited from green space, social interaction and walking over hilly terrain
- The programme was safe; there were no golf-related injuries or adverse events

Ahead of the study being peer reviewed to validate findings and future presentations made to the academic world, Professor Maria Stokes said, "The findings indicate that golf is associated with health benefits related to better muscle strength and balance.

"This suggests golf may meet World Health Organization recommendations for older people, which would potentially qualify golf for social prescription and exercise referral schemes among policy makers to help manage health conditions."

Dr George Salem added, "Our findings suggest that golf should be considered when prescribing exercise for older adults because it appears to be safe, feasible and an adherent form of exercise for a better, healthier quality of life.

"Moreover, as golf is an exercise activity that includes strengthening, power, balance, endurance and cognitive challenges, it satisfies the recommended physical activity guidelines of the World Health Organization, the American College of Sports Medicine and UK guidelines."

"These findings should encourage policy makers and healthcare professionals to consider recommending playing golf to older people as part of encouraging them to adopt a more active lifestyle, as well as tackling physical inactivity to reduce healthcare costs."

MARTIN SLUMBERS
Chief Executive of The R&A



In a 9-hole round, most players will walk two to three miles...

5

...and take over

5,000

steps.



Other papers and research.

Research has taken place, and continues to do so, to identify and support projects across various areas of golf and health, with a view to further informing policy makers, golfers and the wider public.

Dementia and memory loss

With mental health a growing area of focus across the world, conditions such as Alzheimer's Disease, other forms of dementia and memory loss have been seen to benefit from golf. A number of sites in Australia, England, Japan, Scotland and the USA have all identified that the golf club environment is therapeutic, provides social interaction, boosts mental health and even encourages people back into golf e.g. at driving ranges, simulators, pitch & putt, par-3 courses.

While evidence in this area is anecdotal and more tangible scientific research is required, notable examples can be highlighted.

Golf Memories Scotland works with a number of facilities across the country, enjoying success at Carnoustie (as featured on the Golf Channel) and inspiring a programme at TPC Sawgrass in the USA.



Golf In Society helps people living with Parkinson's disease. It has provided opportunities for groups and individuals with dementia and Parkinson's to participate at a number of golf clubs in the UK and is being reviewed by a research group from Sheffield Hallam University.

A scoping review has also been commissioned on dementia and golf with a view to proposing a study to provide a level of evidence which will influence policy makers.

The COVID-19 pandemic

The COVID-19 pandemic considerably impacted on golf at all levels and a variety of guidelines were put in place across the golf industry during lockdown.

Yet the health benefits of golf helped the sport quickly resume in many countries, given golf can provide health enhancing physical activity and safe social interaction in a low risk environment.

Relationships developed as a result of the Golf & Health Project, with the WHO, The R&A, public health bodies, universities and governments contributed to golf being one of the first sports to return, particularly for the safe reintroduction of recreational golf in the UK.

Golf organisations worked hard to provide golfers, golf clubs and greenkeepers with guidance and information to assist them with the safe resumption of golf during the pandemic. It was important for everyone to carefully follow government measures countries put in place in

relation to physical activity. The R&A also launched a COVID-19 Support Fund, a £7 million funding package, to help golf deal with the impact of the pandemic. The fund was largely aimed at national federations and other bodies in Great Britain and Ireland, as well as major overseas affiliates.

Health professionals were also involved in re-establishing golf on the European Tour post-lockdown, together with support for their 'Golf for Good' initiative which aimed to highlight the sport's health benefits and support communities and true heroes.

Golf's reputation was enhanced during the pandemic, with a significant number of clubs welcoming large numbers of new members post-lockdown and increased footfall. For example, in Norway, almost 300,000 rounds were booked in May 2020, over double for the corresponding month in 2019.

Mental health and wellbeing

With COVID-19 impacting society worldwide in 2020, playing golf and spending time in green spaces was highlighted as a possible solution to overcoming mental health problems.

Leading environmental psychologist Professor Jenny Roe from the University of Virginia highlighted that golf course environments possess many of the natural features – including water, biodiversity, spatial variety and light patterns – that help reduce stress and induce calm. In a feature from Syngenta Growing Golf, broadcast on World Environment Day on 5 June 2020, Roe suggested prospective players are attracted to golf because it is outdoors and offers relaxation and stress relief.

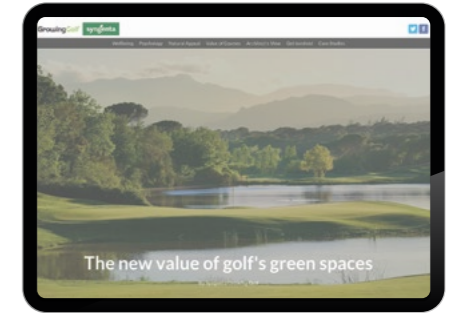
Golf clubs and courses could reposition themselves as valuable green space destinations to encourage more golfers and boost their health.

Furthermore, a project carried out in 2020 found that golf can have a positive impact on children's behaviour and wellbeing.

Carnoustie Golf Links and Abertay University ran the 'Golf Collaboration Project', which set out to test the effects of golf on young people via the club's 'Carnoustie Craws Programme for Young Golfers'.

Over a six-week period, children who took part were assessed on their golf skills, physical activity and personal wellbeing. Testing included physical measurements such as jump performance, back and grip strength, reaction time and balance, as well as on their own sense of self-esteem and resilience. Participants reported an increase in wellbeing across all categories, while three out of four physical tests also showed improved results.

The Golf Foundation's 'Skills for Life' research project in 2017-18 achieved similar success. Designed to develop the mental toughness and resilience of the participants involved, PGA teaching professionals delivered the programme to groups of young people, aged between 11 and 16 years. Average mental toughness increased in the participants by 20% during the programme.



“Contact with nature slows down our stress response and induces calm. There is evidence to show this is happening in our biological system. It is promoting stress resilience, it is improving our mood, it is decreasing our risk of depression and increasing our social wellbeing, particularly on a golf course where you are interacting with other members of that community. So, there are a host of mental and social wellbeing benefits.”

PROFESSOR JENNY ROE
University of Virginia



Joint replacement

New research in 2019 reported positive news on joint replacement among golfers, highlighting that they should have no reservations about returning to golf and may return quicker than was initially thought.

Notably, it reported that two in five golfers play more golf after undergoing joint replacements and almost 90% continue to play at least the same amount of golf after the operation.

The findings came from a survey carried out by Europe's largest online golfing community, HowDidiDo, under the auspices of consultant orthopaedic shoulder surgeon Peter Hughes. Almost 3,500 joint replacement recipients responded to a questionnaire regarding post-operation golf habits and this was collated alongside data from nearly seven million rounds of golf.

From the raw data, analysts were able to determine how age affected handicap and frequency of play in the general population – playing intensity gradually rises to age 55 then declines from 70 – and to compare that with the information supplied specifically by respondents. It showed that those who had undergone joint replacement operations could maintain – or even increase – the frequency of their golf, with many even reporting a more satisfying experience as a result.

Key findings included:

- 63% of golfers being able to play iron shots again within three months of their operation
- 76% of golfers returning to club competitions within six months
- 22% used a golf cart in the early stages of their return, which dropped to a little more than 11% once full recovery had been made

Hughes, who presented the findings at the Fortius International Sports Injury Conference in London, said, "The joint replacement process is successful and most players can expect to play on for more than 10 further years with deterioration no different from other ageing golfers.

"Worldwide, I would estimate there are probably three million golfers playing for an extra 10 years because of their new joint. If they spend just £1,000 per year on their golf – on membership or green fees, food and beverage, hardware and so on – then that's an extra £3 billion kept in the game every year that would otherwise be lost."

Mortality

A 2020 US study into mortality among the over 65s in the 1990s reported that playing golf may help older adults live longer. Researchers found during the decade-long study that golfers had a death rate of 15.1% compared to 24.6% among non-golfers. The complete findings were presented at the American Stroke Association International Stroke Conference in Los Angeles. In summary:

- Researchers at the Zeenat Qureshi Stroke Institute in Minnesota studied data about a group of nearly 5,900 adults, with an average age of 72, from 1989 to 1999. Everyone studied was over the age of 65 and underwent extensive medical examinations every six months
- Of all the people examined, 384 played golf at least once a month. About 15% of them died during the decade. However, of the more than 5,500 adults who weren't golfers, about 25% of them died before the year 2000

"Due to its social nature and controlled pace, people often maintain motivation and the ability to continue playing the sport even in older age," said Dr Adnan Qureshi, the study's lead author and neurology professor at the University of Missouri. "Regular exercise, exposure to a less polluted environment and social interactions provided by golf are all positive for health."

[View more information](#)

Injury

The European Tour Performance Institute (ETPI) has published a number of articles in the last 10 years on elite golf with a focus on common injury areas such as the wrist and hip. In 2018, a systematic [review](#) was published in the BJSM.

However, studies of injury in elite and recreational golfers have lacked consistency in methods and definitions employed.

In a sport-wide statement from the International Olympic Committee in 2020, there was a call for sport-specific consensus statements. On invitation by the International Golf Federation, a group of international experts in sport and exercise medicine, golf research and sports injury and illness epidemiology were selected to prepare a golf-specific consensus statement.

If this advice is followed, it is hoped to increase knowledge on injuries in golf and then tackle the even more important issue of prevention.

Case Studies

The Impact of Golf and Health.

An academic evaluation of golf and health was published in the BJSM in January 2020, entitled: "Maximising and evaluating the uptake, use and impact of golf and health studies". Assessing scientific evidence across golf and health studies, it outlined in summary terms their effectiveness across the general public/golfers, policy makers and the scientific

community. The evaluation also highlighted the collaborative approach of the WGF, The R&A, various universities and other golf bodies.

[Impact Study overview](#)

Another collective overview of the work across golf and health was published in a special e-edition of the

BJSM, in the autumn of 2020, joining only football and rugby in publishing a comprehensive report of its health benefits and dis-benefits.

To further examine the impact of golf and health, 10 case studies are highlighted.

1 The Open.

As scientific research has shown, golf can provide health-enhancing physical activity for players and can have physical and wellbeing benefits for spectators at major amateur and professional events.

Player welfare, spectator awareness, commercial opportunities with health partners and influencing opinion with local and national governments provide areas of focus.

Therefore, at some of the biggest golf tournaments worldwide in recent times, opportunities have been taken to promote health messages – with The Open among them.

The Open is a major global sporting event and has enabled the promotion of key health messages to hundreds of thousands of fans attending the Championship at Carnoustie in 2018 and at Royal Portrush in 2019.

Information Towers and Screens

- Four information towers on site – two in the Spectator Village and two on the course – and LED screens throughout the venues were used to display positive health messaging.

Spectator Guide

- A 'Red Route' – approximately 6km in length – was detailed in the pocket guide for spectators to encourage them to walk around the course when viewing play.

Player Gym

- An exclusive, dedicated player gym was first introduced for The Open at Royal Birkdale in 2017 and the purpose-built facility is complemented by the Health and Performance unit provided by the ETPI. Players and their teams can use the space and facilities provided to focus on preparation, recovery and physical conditioning. Physios, osteopaths, sports therapists, performance nutritionists and strength & conditioning staff provide valuable input to a large number of players. Dr Andrew Murray was based for the week in the players' facility at Royal Portrush in 2019 to complement The R&A medical team.



"While we know one of the best things you can do for your health is playing golf, actually coming to The Open or any golf tournament and walking the course, seeing what the players can do at close quarters, gives you a healthy dose of exercise and fresh air."

DR ROGER HAWKES
Executive Director,
Golf & Health Project





The Player Clubhouse at The 148th Open at Royal Portrush

Player Clubhouse

- A bespoke clubhouse was introduced at Royal Portrush in 2019 that brought together all player services under one roof – services that enable the players to perform to their maximum potential (e.g. a players' lounge, locker rooms, creche, gym, performance unit and more).
- The nutritional offering in 2019 was also carefully considered for all players, with a wide range of catering on offer to enable their bodies to fuel and repair and to protect against illness. Protein, carbohydrate and fruit & vegetable options were all of good quality, produced in consultation with leading chefs and Professor Graeme Close, a global expert in performance nutrition. A coffee bar and smoothie station were also provided, along with healthy snack availability, including protein bars.

Media

- The Open has also offered the opportunity to gain wide media exposure for golf and health messaging, including with Sky Sports, the Golf Channel, golf magazines and on The Open and The R&A's digital platforms.

Sports Ministers

- With health and wellbeing a vital area for governments, The Open and the AIG Women's Open have provided the chance to engage with ministers and other leading policy makers on site to promote key points and help drive change.
- Aileen Campbell, former Minister for Public Health and Sport at the Scottish Government, said, "I know that golf can be beneficial for both our physical and mental health and work has sought to back this up with sound evidence. The work has been a great way of identifying the benefits and researching them further so we, in the Home of Golf, can promote our sport around the world."

Health promotion at other professional events

The 2018 Ricoh Women's British Open at Royal Lytham & St Annes and the 2019 AIG Women's British Open at Woburn, now named the AIG Women's Open, used information boards, LED screens and video on social media to promote health messages.

The 2018 Ryder Cup at Le Golf National in France highlighted health benefits to 250,000 fans through on-course signage and the official programme. On the eve of the match, a Medical Forum was also held at the Louis Vuitton Foundation which brought together 250 experts to discuss golf's physical and mental health benefits.



The 2019 Aberdeen Standard Investments Scottish Open at The Renaissance Club was one of the most inclusive health-supporting golf events staged in Scotland, including the staging of the EDGA Scottish Open for Disabled Golfers, information boards with messaging from leading players and Scotland's Chief Medical Officer and spectator maps and giant seats at the furthest points on the course supporting active spectating.

2 Wales Golf and the Stroke Association.

The power of golf and its life-changing properties continues to be effectively highlighted in a partnership with Wales Golf and the Stroke Association, helping people physically and contributing to improved mental health and wellbeing.



In doing so, it has helped save money for the health service (as detailed in statistics from Sport Wales below).

New2Golf/Back2Golf is an initiative Wales Golf set up at local golf facilities for all ages and abilities as part of the national federation's 'Everyone's Game, Anywhere' strategy. The Stroke Association is a UK-wide charity helping stroke survivors and their carers, with approximately 7,000 strokes happening in Wales every year.

Parc Golf Club set up a pilot scheme in 2017, with participants putting, chipping, hitting balls at the range and socialising. Such was their love for the activity, 63% of the participants still meet and play regularly three years on.

2018 saw a national roll-out, with golf the first sport to attract funding direct from Health in Wales. During this 12-week programme, more than 10 clubs took part, with over 86 stroke survivors participating, consisting of both new and lapsed golfers. 76% participated regularly and, following the scheme, 71% of the regular participants took part in golf activity (either at a home club or elsewhere). A further 9% became club members. On further analysis, all participants reported improvements in confidence and a boost to fitness leading to improvements in wellbeing and mental health.

Peggy Cumbers, part of the initial pilot in 2017, tells her own story, "Golf helped me get my life back after a stroke. I was in hospital for seven weeks and the clot was on the right side of my brain, so it was my left side that was affected. I really couldn't even imagine walking again.

"I was worried I wasn't going to be able to hit a ball without falling over. After the session I went home as pleased as punch that I had been able to do it and had been out meeting and chatting to people. Back2Golf has been fantastic for my recovery. I'm back active again and it has made me more confident overall."

Peggy's story was used by Sport Wales to illustrate research evidencing a £295m per annum saving for health budgets by being active and playing sport (in 2016-17).

The figure came from research commissioned by Sport Wales and undertaken by the Sport Industry Research Centre at Sheffield Hallam University, which calculated that adults who participated in sport and exercise at moderate intensity lowered their risk of major illnesses by up to 30%.

Joe Vickery, PGA Professional at Parc Golf Club, added, "I would encourage other golf professionals and clubs to be inclusive with coaching and membership options, as it is so rewarding and great for recruitment and retention."

In 2019, a further nine groups took part throughout Wales, with 44 regular participants of which 78% continued into regular golf activity. Even during lockdown due to the COVID-19 pandemic in 2020, Wales Golf developed online sessions for stroke survivors to keep them active at home and connected, again boosting their physical and mental health.

[View more information](#)



Peggy Cumbers

"I was worried I wasn't going to be able to hit a ball without falling over. After the session I went home as pleased as punch that I had been able to do it and had been out meeting and chatting to people. Back2Golf has been fantastic for my recovery. I'm back active again and it has made me more confident overall."

PEGGY CUMBERS
Participant in the pilot Back2Golf initiative



3 Golf for the Disabled.

The growing focus on health is likely to have contributed to increasing inclusivity and diversity within the sport, including women and girls' golf and shorter formats like nine-hole golf, par-3 golf and GolfSixes. Disability is another such area.

EDGA

Golf is a sport for everyone. Regardless of age, gender, physical condition or physical challenge, it's a great way to build friendships and to exercise, while providing an opportunity for personal challenge and growth.

Information on the benefits of golf for health has been used to support the development of golf for the disabled in 36 countries, to tackle some negative perceptions about golf and to help make golf a more inclusive sport.

EDGA (formerly known as the European Disabled Golf Association) affiliated to The R&A in 2018 and is the leading organisation in this area, regularly promoting golf for players with disability at every level and actively involved in various campaigns, such as 'PLAY GOLF'. The campaign showcases eight EDGA players from three continents with a range of disabilities who live life to the full through playing golf. The campaign is supported by a dedicated training programme which engages with hospitals, rehabilitation centres, golf clubs and other sporting venues.

Golf for the disabled has also developed in other ways. For example, the World Ranking for Golfers with Disability (WR4GD) was launched at the start of 2019 to promote inclusivity within the sport and is administered in tandem with the World Amateur Golf Ranking® for both men and women. The R&A and the USGA assumed responsibility for calculation of the rankings, taking over from EDGA, who created the comprehensive and independent Ranking for Golfers with Disability in 2014.

There has been a sizeable increase in the number of players included in all three ranking categories (Gross, Nett and Stableford Ranking) since its introduction. In 2019, the WR4GD included 854 players from 32 countries who competed in 43 ranking tournaments played in 18 countries. In comparison, there were 594 players who competed in 23 ranking events in 2018.

Golf for the disabled has also been highlighted at leading professional events, working with national governments to promote inclusivity in golf and sport more widely.

The EDGA Scottish Open was the first of two tandem events on the European Tour in 2019, with the 36-hole EDGA Dubai Finale featuring as part of the season-ending DP World Tour Championship, with George Groves winning in Dubai.

"The very nature of a game where the player is in control of their own ball, which is still, makes golf an ideal sport for even the most profoundly disabled, so allowing golf to be the most inclusive sport of all."

TONY BENNETT
EDGA President

The second edition of the Australian All Abilities Championship also took place alongside the Emirates Australian Open in December 2019, with 12 of the world's best golfers with disability in the field, where Swede Johan Kammerstad successfully defended his title.

Tony Bennett, EDGA President, said, "EDGA listens intently to its members and players, to understand the critical needs of golf for the disabled. We continue to develop strategies and practical tools that inform the industry, educate the coaches and players, and promote initiatives to practically get more individuals with disability into the game. The very nature of a game where the player is in control of their own ball, which is still, makes golf an ideal sport for even the most profoundly disabled, so allowing golf to be the most inclusive sport of all."



Highly-rated disabled golfer Brendan Lawlor

4 Courageous Kalkman Inspiring Disabled Golfers.

Golf has been proven to be a great sport for the physical and mental health of people with disability, a fact that should be of interest to potential players, national federations and governments.

The story of Monique Kalkman is illustrative. Cancer as a teenager left Kalkman facing huge life challenges. A lover of tennis and hockey as a child, she had to revise her sporting dreams. Due to the cancer (and paralysis from her waist down), she adjusted to life as a wheelchair user.

Yet she remained strong, notably through the support of family and friends. In 1980, she was at home in Arnhem watching the Paralympics on TV and was duly inspired. She discovered table tennis, and soon found a way to start winning in style, blowing away the competition. She thrived to become a four-time Paralympic champion in wheelchair tennis and table tennis and a member of the International Tennis Federation Hall of Fame.

After a decade of achievement, Monique found the intense level of competition and practice too demanding. She became European Product Manager for her sponsor,

Sunrise Medical, in 1997, but in 2004 suffered some health problems including heart issues. After an operation and issues with neck dystonia, Monique decided she needed to find a new sport to help her physically.

Previously, she had taken a buggy ride on a golf course while at a tennis camp and was "amazed by the beauty of the nature" on a course, enjoying "the serenity and elegance of the sport".

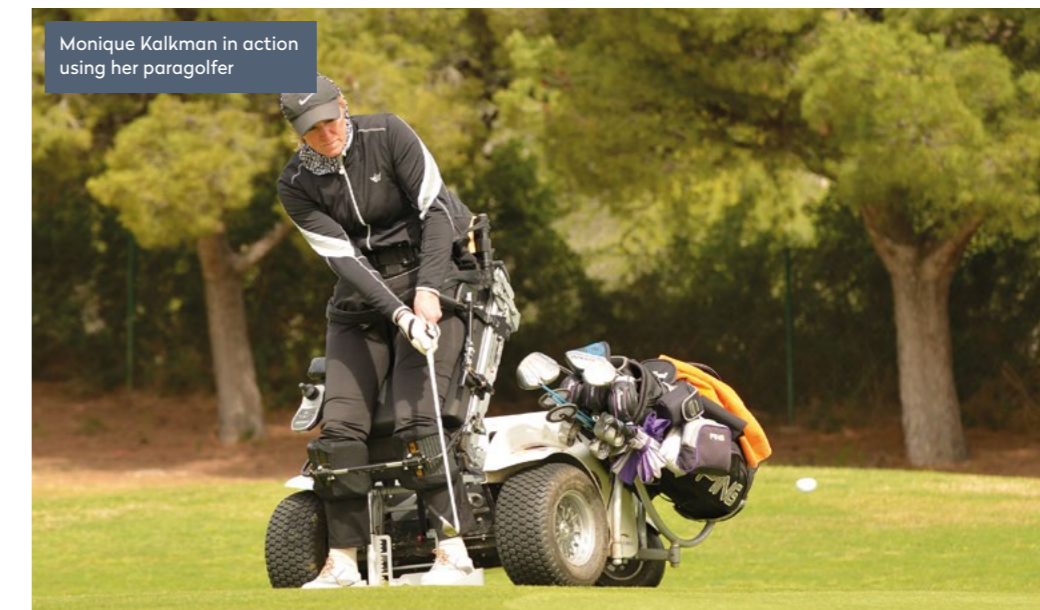
Monique found that using a specially-designed paragolfer chair was ideal for her fitness and for her neck injury, as she could play from a standing position. Her patience gradually helped develop her golf game. Watching the likes of two other wheelchair golfers, Anthony Netto and Sebas Lorente, also helped, as did her willingness to spend hours on the range, making Monique the highly-rated player she is today.

Now in her 50s, golf suits her age and lifestyle, being out in the fresh air and using different muscles. "I have a different goal now," she said. "Tennis, for me, was all about being competitive. Golf is more of a mix of competition with huge social and health benefits. All national federations should encourage and help disabled golfers, as it is a great sport to help them physically and mentally."

Monique, who has developed her own 'Going for Golf' Foundation, is well respected by members of EDGA. "Just as Monique paved the way in tennis for those with a disability, she is in the vanguard of passionate people aiming to do the same in golf," says Tony Bennett, EDGA President. "She is helping to break down barriers, to make competitive golf for those with disabilities a more attractive and likely proposition despite numerous challenges."

"Tennis, for me, was all about being competitive. Golf is more of a mix of competition with huge social and health benefits. All national federations should encourage and help disabled golfers, as it is a great sport to help them physically and mentally."

MONIQUE KALKMAN
Four-time Paralympic champion



Monique Kalkman in action using her paragolfer

You don't have to join a gym to gain the benefits of exercise...



11

...playing golf can provide most of these benefits, for all ages.



12

5 Policy makers.

Golf plays an important role in maintaining a healthy, active population and delivers benefits to all ages and abilities – benefits that more and more policy makers are incorporating into their policies and agendas.

Policy makers are vital in deciding what national governments and authorities invest their time and resources in.

For example, multiple motions in the UK Parliament have welcomed the research and opportunities related to golf and health, while the All-Party Parliamentary Group for Golf was a signatory to the 2018 International Consensus Statement on Golf and Health and the suggested actions for policy makers.

Steve Brine, former UK Parliamentary Under Secretary of State for Public Health and Primary Care, said, “Golf is very important in terms of keeping people active and it is also part of the loneliness agenda, part of good mental health. Increasingly, there is evidence that golf is very good for managing long-term conditions, helping people stay focused and stay active for longer. There are lots of benefits to golf.”

As highlighted, the research has also helped shape policy regarding major events, such as at The Open, to keep the golf and health agenda in the public eye. Communication has also helped inform walking and physical activity policy.

In the published article ‘Physical activity investments that work – Get Scotland walking: a National Walking Strategy for Scotland,’ authors including the then Chief Medical Officer for Scotland, Dr Catherine Calderwood, and the then Minister for Public Health and Sport and current Communities Minister, Aileen Campbell, state, “We work with The World Golf Foundation, The R&A and the European Tour to encourage spectators to walk the course. Our golfers are encouraged to walk the course rather than riding carts.”

Activities to support uptake and use by policy makers have included providing summary briefings;

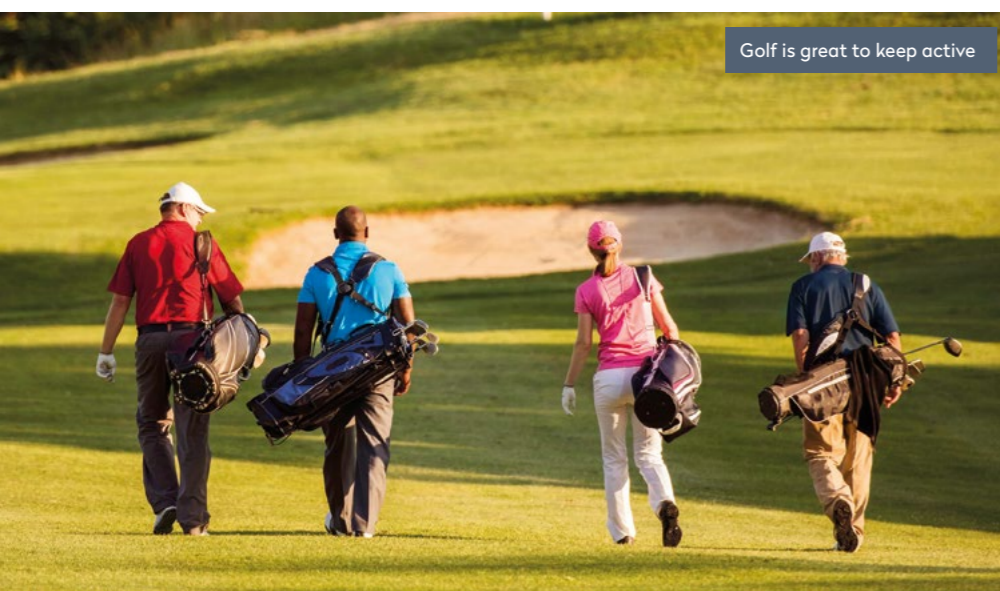
infographics spelling out the relationships of golf with health; actions to support improved health through golf and physical activity more generally; and opportunities to align work to local, national and international policy.

The WHO Programme Manager of Non-Communicable Disease Prevention, Professor Fiona Bull, describes golf’s efforts to contribute to health improvements, “Golf is a popular sport for men and women and it is great to see golf’s global leadership recognising health priorities and identifying ways golf can be more accessible to more people.”

Policy makers are urged to continue to promote the benefits of regular physical activity, including golf, for people of all ages, genders, and income brackets, and publicise the specific health enhancing aspects of golf.

“Golf is very important in terms of keeping people active and it is also part of the loneliness agenda, part of good mental health. Increasingly, there is evidence that golf is very good for managing long-term conditions, helping people stay focused and stay active for longer. There are lots of benefits to golf.”

STEVE BRINE
Former UK Parliamentary Under Secretary of State for Public Health and Primary Care



51% of the general population consider themselves to be in good health...



13



...but this rises to 72% of golfers.



14



6 National Federations.

For the benefits of golf and health to be fully realised on a worldwide scale, the support of national federations remains vital to raising awareness.

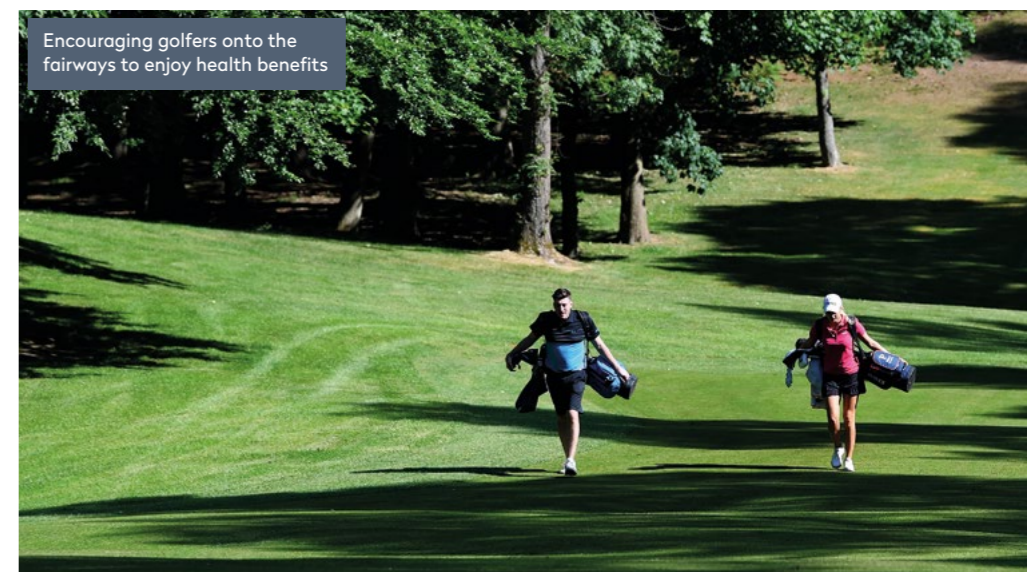
Indeed, there are already many promising examples in this regard, aided by The R&A sending information (research, infographics and media material) to over 150 affiliates to encourage adoption of health promoting actions. Meetings to support engagement work with national federations have also taken place, including with China, France, Germany, Hong Kong, Indonesia, Portugal and Spain.

For example, China has highlighted that golf and health messaging can help to increase participation, as evidenced in the quote below from the 2018 First International Congress on Golf and Health.

Wei Qingfeng Weber, Director – Golf Development at China Golf Association, said, “Golf and health is the most important area for China Golf currently. We are seeing growth and aim for more than 500% increase in junior participation between 2018–2022.”

The German Golf Association (DGV) has also been very active, working on the DGV-Project ‘Golf and Health’ over the last two years to motivate non-golfers to start golfing for health reasons and existing golfers to play more.

Using the scientific evidence available, they produced a ‘toolbox’ for golf courses to encourage local non-golfers to the sport for health reasons. The toolbox includes posters, advertisements, flyers, online banners and guidelines. “The special thing about the toolbox is that there are four versions, as we have worked out four different target groups in golf and health so that each course can use a toolbox tailored to its marketing position,” says Markus Lawatsch, Marketing Director at DGV.



Communication was then sent to all courses so they could inform the 642,000 registered golfers across Germany of the benefits of golf and health, along with guidelines on how courses can effectively organise a golf and health tournament for golfers and an open day for non-golfers.

The DGV also designed a supplement and added 160,000 copies to a large German daily newspaper to inform non-golfers on golf and health. Further communication work has included a golf and health website, a dedicated social media campaign and filmed fitness exercises.

Further projects are planned on golf and nutrition, as well as a prevention guide so clubs can offer prevention courses, financially supported by health insurance companies.

Leading German golfer Max Kieffer is an ambassador for the work in Germany, with the German Olympic Sports Confederation also supportive of the projects too.

“We have planned and implemented a lot of sub-projects as part of the German golf and health project to motivate non-golfers to start golfing for health reasons and golfers to play more.”

MARKUS LAWATSCH
Marketing Director, DGV

The Confederation of Professional Golf (formerly the Professional Golf Associations of Europe) has also facilitated the adoption of golf and health into the curriculums for all prospective coaches in their area of influence. Overall, national federations are now equipped with stronger science on golf and health and can take concrete actions to improve health.

7 Social Prescription.

Given the burden and challenges for the National Health Service (NHS) in the UK, shifting the balance from medicine to 'prescribing' social activities to improve the health of millions has been a growing focus for the UK Government in recent times.

Among pilot UK schemes that offer social support and health-enhancing activities, GPs have been encouraged to prescribe golf for their patients after studies showed it boosted levels of fitness, muscle strength and happiness.

In 2018, a scheme, backed by fitness body ukactive, and funded by England Golf and leisure operator Mytime Active, offered clear insight into the benefits of 'golf on referral'.

Pilot schemes in south London, in Bromley and Orpington, found that patients referred for golf saw levels of vigorous exercise triple, with significant boosts in life satisfaction, happiness and self-esteem. Researchers said 'golf on referral' could be particularly good at encouraging middle aged men to take up exercise – those who are often unlikely to respond to standard health initiatives.

Steven Ward, ukactive CEO, said, "Golf is a fantastic way to encourage people to be more active, particularly among parts of the population who may not be too engaged with other activities.

"The research shows that there are clear mental, physical and emotional benefits for 'golf on referral' – we should look to roll out more of these programmes across the country as part of wider efforts to get the nation moving."

At the start of their programme, participants' average activity levels were the equivalent of about one hour's running a week. Six weeks' later, those levels were equivalent to more than three hours' running.

Grip strength, a strong indicator of vitality in older people, also increased significantly over the course of the study – suggesting improvements in muscle strength and reduced risk of falls or disability. In pilot schemes,

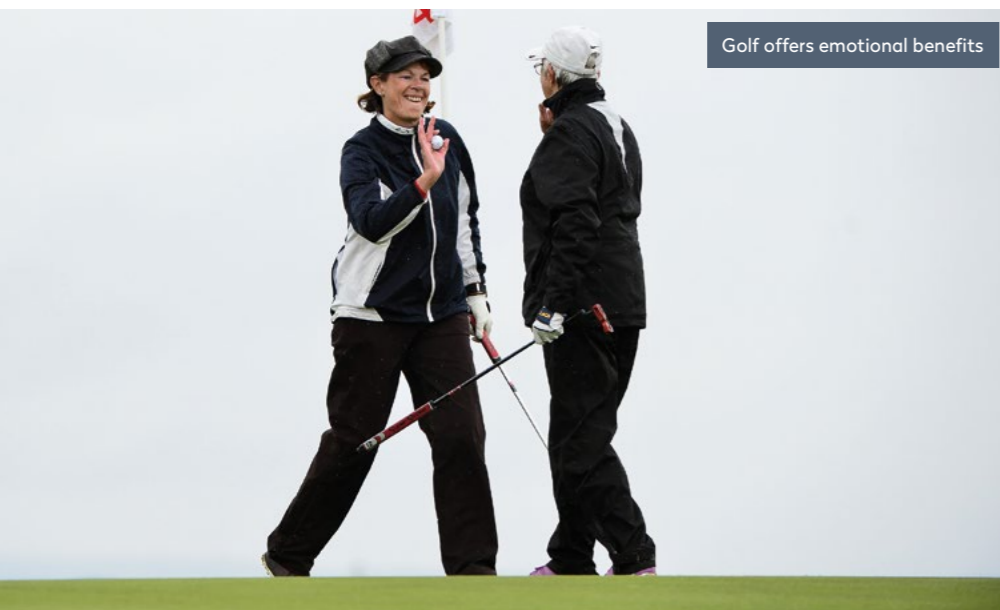
participants were given two sessions a week for six weeks. Each involved a 30-minute group discussion about lifestyle changes, followed by 45 minutes of golf coaching.

"The research shows that there are clear mental, physical and emotional benefits for 'golf on referral' – we should look to roll out more of these programmes across the country as part of wider efforts to get the nation moving."

STEVEN WARD
ukactive CEO

Richard Flint, Participation & Club Support Director at England Golf, added, "We're thrilled to see this scheme developing from our earlier research into the impact of playing golf on health and wellbeing, which we carried out with the support of Mytime Active and ukactive.

"It's been exciting to see the results of the pilot schemes and to gain even more evidence that golf is good for health. We hope that 'golf on referral' can be made more widely available."



Golf offers emotional benefits

8 Golf and Health Week.

Building on the work of various health initiatives, the first-ever Golf and Health Week was held in April 2019. It saw various golfing bodies working collaboratively to highlight the sport's health benefits and reach an audience of over 20 million on social media.

Co-ordinated by The R&A, it was primarily focused on Great Britain and Ireland with the support of the European Tour, the Ladies European Tour, The Professional Golfers' Association and the Golf Foundation, as well as national federations including England Golf, Scottish Golf, Wales Golf, the Golfing Union of Ireland and the Irish Ladies' Golf Union.

It also reached the likes of Australia, Canada and the United Arab Emirates (Abu Dhabi) and engaged a number of leading professionals including Justin Rose, Padraig Harrington and Gary Player and broadcasters such as Iona Stephen and Eilidh Barbour.

A number of health-related themes were promoted during each day of the campaign, including:

- **Fitness** – professionals and amateurs
- **Mental health** (including dementia)
- **Disability golf**
- **Golf for everyone** – featuring various health projects (e.g. Parkinson's, loneliness, stroke and other programmes that can benefit health)
- **Club level** – focus at golf clubs (e.g. fitness, food, drink, gym classes)

The week was chosen immediately after the Masters Tournament to capitalise on the early season interest in golf, further boosted by Tiger Woods' victory.

The collaborative campaign ran across digital and social media channels using the hashtag #GolfHealthWeek and included content focused on highlighting the physical and mental health benefits of playing golf and projects being delivered by golf bodies and clubs to encourage golfers, non-golfers and lapsed golfers into taking part in the sport. It created significant media and TV coverage, including on Sky Sports.

European Challenge Tour golfers Connor Syme and Ewen Ferguson, both former Walker Cup players, helped support the fitness theme through filming at the Institute of Sport & Exercise at the University of Dundee.

The Scottish duo went through their paces at the University's gym, highlighting the importance of fitness for their games, as well as taking part in fun challenges.

"I think health and fitness is a massive part of golf nowadays," said Syme. "Generally, I use the gym for injury prevention and keeping fit." On his top fitness tip for amateur golfers, Ferguson added: "Just try and keep yourself lean and in shape, going through the motions of different exercises without adding a lot of weight on to keep yourself flexible and loose."

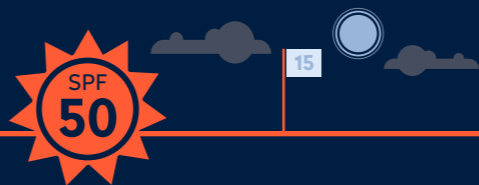
The week also highlighted individual stories such as from Stewart Harris, an ambassador for Wales Golf, who credits the sport for help saving his life after enduring physical and mental problems following a bomb blast in Afghanistan while on tour as a soldier. The story of Rachel Ingram, from Hull in England, was also profiled, having seen her health (anxiety, depression and an eating disorder) and lifestyle turned around by playing and enjoying the sport.



Stewart Harris, Ambassador for Wales Golf



Golfers are at moderate risk of injuries, few are serious, and risk to sun can be minimised.



Golf and Health Week reached an audience of over 20 million on social media.



9 The Home of Golf Leading the Way.

Golf has been played in St Andrews for more than 600 years, globally recognised as the home of the sport. History and tradition may dominate, but golf continues to evolve.

Today, more than 230,000 rounds are played annually over seven public courses managed by the St Andrews Links Trust, with the Trust also overseeing a number of additional facilities, including a golf academy, three clubhouses, three cafes and five shops.

The largest public golfing complex in Europe has also enhanced its commitment to health, building on the recommendations made in the International Consensus Statement on Golf and Health in 2018. Using the expertise of Dr Andrew Murray, the Trust is working in a number of areas to boost health through golf.

“The Consensus provided information to golfers themselves; to facilities and the golf industry; and to policy makers on how to improve health through golf,” notes Murray. “St Andrews Links Trust and many other leading facilities throughout the UK, and globally, are embracing the Consensus and working to meet its recommendations.”

Murray has spoken at Links Trust staff forums and partner gatherings – including with Rolex and Allianz who have now further supported work in

Germany – to emphasise the physical and mental health benefits of playing golf and the importance of multi-functional facilities, with the COVID-19 pandemic putting increased focus on practices and priorities.

Laurie Watson, Head of Communications at St Andrews Links Trust, said: “We know there are a huge range of wider benefits through playing golf, as research has proven. The Trust are committed to health-enhancing activity across our facilities for golfers and potential golfers and are grateful to the support of Dr Murray to achieve our goals.”

Murray added: “It’s great to see that the Home of Golf never stands still and combines the finest traditions with embracing the concrete actions that can lead to improved health through golf. It’s not simply about the Old Course, it’s about their range of facilities for all.

“The simplest actions done well make the biggest difference, maximising golf’s health benefits and encouraging people through the door to get into golf – and keep playing golf.”



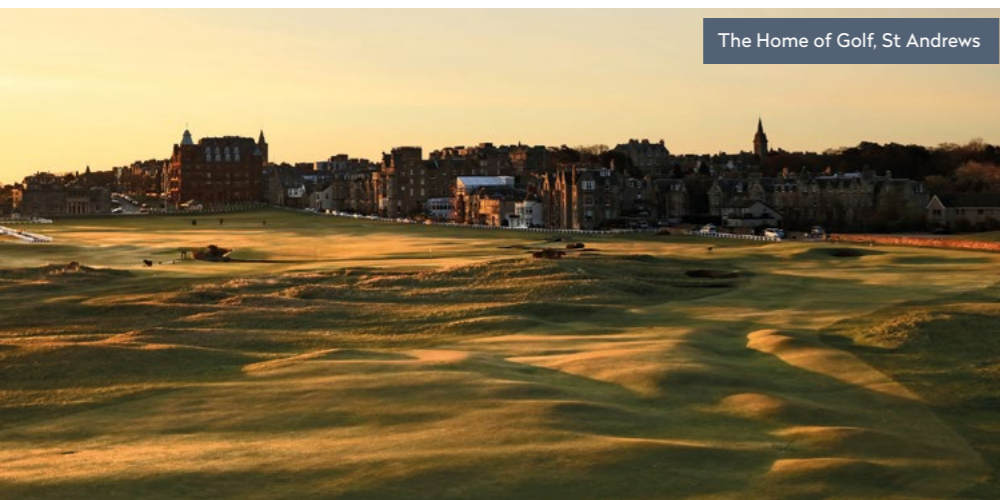
Health areas the Links Trust are focusing on

- Plans being developed for gym facility to complement existing golf performance suite
- Focus on entry level nine-hole Balgove course to encourage new golfers
- Increased number of women and girls’ golfers
- Provision of toilets on course
- Promoting walking, as nature intended, rather than cart use
- Warm up areas at Academy and practice areas
- Wide range of healthy food and beverage options
- Retail offering including sunscreen and caps to minimise health risks from skin cancer
- Staff training in health and safety
- Promoting sustainability e.g. restricting the use of chemicals

“We know there are a huge range of wider benefits through playing golf, as research has proven. The Trust are committed to health-enhancing activity across our facilities for golfers and potential golfers...”

LAURIE WATSON
Head of Communications,
St Andrews Links Trust

The Home of Golf, St Andrews



10 Improving Life Through Golf Memories.

Going down memory lane in golf is helping improve people’s mental and physical health – including at renowned Open venues.

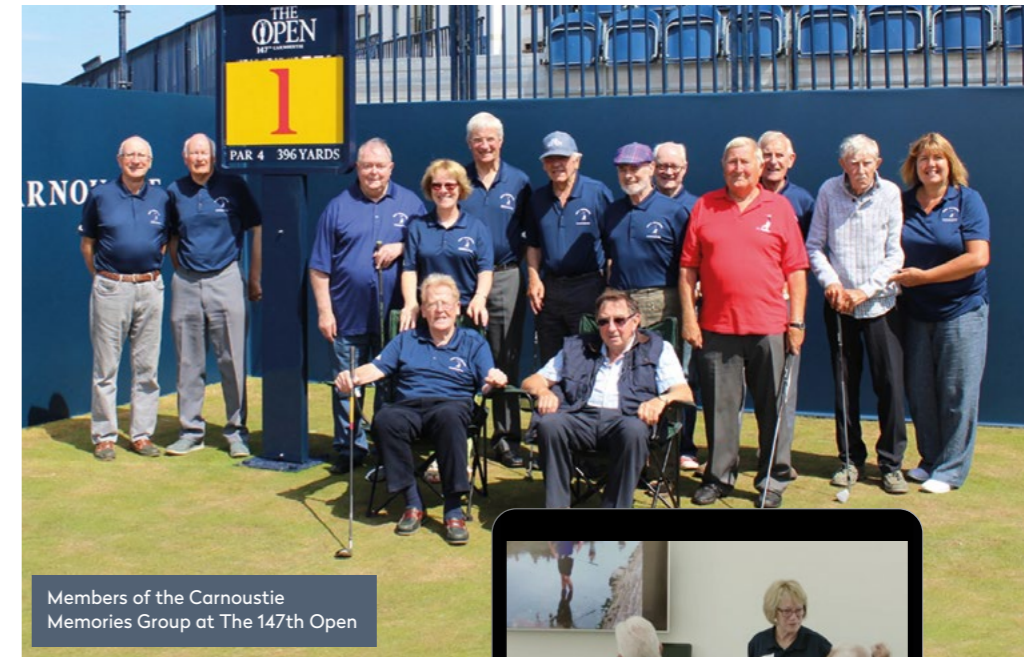
Francesco Molinari’s notable feat in 2018 in becoming the first Italian to win a major championship is among the many golfing highlights recalled by a local 15-strong group at Carnoustie, who meet every month in the new Links House. With an average age of 78, they browse the history books, looking at photos of past Open champions over the famous links such as Molinari, Ben Hogan, Gary Player and Tom Watson, as well as sharing stories of their own golfing achievements.

They also strike a ball in the simulator bays, play ‘The Nestie’ short six-hole par-3 course or try the public putting green, all this is in competition for their own ‘Claret Jug’ monthly award.

The Carnoustie Golf Memories Group, launched in 2015, is among a number of groups that have sprung up at golf facilities across Scotland, including at Noah’s Ark in Perth and in Troon. The British Golf Museum, which is part of The R&A family, and Alzheimer Scotland also came together to run a monthly social group at the Home of Golf in St Andrews.

The groups are part of the overall Golf Memories Project, which in turn is part of the wider Sports Heritage Scotland network helping those living with dementia and memory loss.

Scotland currently leads the world in reminiscence therapy. Football, cricket, curling, rugby and shinty are among the sports also involved, a collaborative effort of reminiscence groups to stir memories, fulfil lives and also encourage participants back into the sports they love.



Members of the Carnoustie Memories Group at The 147th Open



Lorraine Young is a key driving force for the golf group in Carnoustie, which is also supported by the Golf Links team. “Being afforded the opportunity to spend meaningful time with our members, in a setting within which they freely start to tell their compendium of stories, is a real honour,” says Lorraine. “For each individual member there is a story to be told and creating the environment within which they can begin to tell and relive, at least part of their story, is magical.”

A former Chief Social Work Officer for Angus and a Rotarian, Lorraine chose to commit her free time to creating and supporting the development of Golf Memories. The group is ably supported by a committed and dedicated team of local volunteers, such as David Taylor, Trevor Williamson and Margaret Muir. “Creating a sense of being valued and a belonging is central to our core values,” continues Lorraine. “Families tell us that, as a result of our meetings, they get their loved one back.”

“For each individual member there is a story to be told and creating the environment within which they can begin to tell and relive, at least part of their story, is magical.”

LORRAINE YOUNG
Carnoustie Golf Memories Group

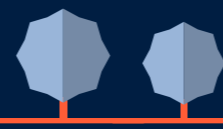
In 2019, the world-famous TPC Sawgrass course in Florida saw the launch of the Pete Dye Chapter Golf Memories group, inspired by the pioneering work being achieved at Carnoustie Golf Links.

Please visit The R&A website or the Golf & Health Project website for further case studies.

80% of golfers are happier with their social life compared to 60% of the general population...



16



...and less likely to be at ‘risk of loneliness’.



17



The Future of Golf and Health.

What has been achieved?

The sustained work in this area since 2016 has highlighted golf's health benefits to a global audience and underlined the role that the sport plays in health and social wellbeing.

By maximising the uptake, use and impact of scientific research, it has been consistently highlighted that golf is a health-enhancing physical activity and a range of actions can be taken to promote better health through golf.

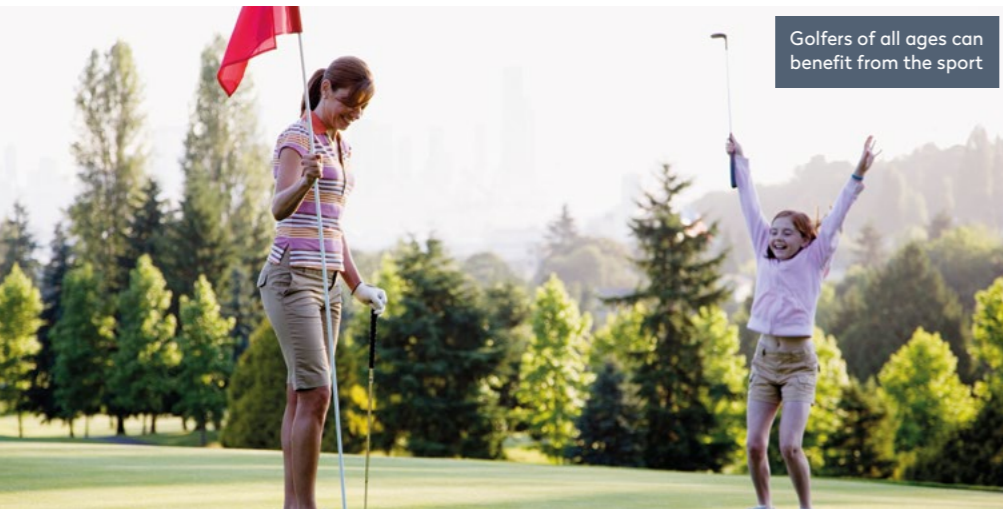
In summary, golf's health benefits have shown that:

- **Golfers live longer and are healthier and happier**
- **Golf can help strength and balance and improve quality of life**
- **Golf can be played by people of all ages and abilities, including with disability**
- **Golf provides social interaction, a significant protective factor for mental health and wellbeing**
- **Golf can help reduce health costs and can add value to health systems through social prescription**

Activities have been undertaken to raise awareness of these benefits with:

- Global government ministers/ heads of state
- National federations and bodies such as the All-Party Parliamentary Group for Golf (UK)
- Global golf tournaments
- PGA professionals
- Attendees of over 30 keynote talks on golf and health at events, including the First International Congress on Golf and Health and Planetary Health
- Attendees of medical meetings in Chicago, Edinburgh, London, Los Angeles, Paris and Vancouver, and at various golf clubs

Over 300 media articles have also been generated from the original research to help promote the health benefits of golf, as well as coverage on NBC, CNN, BBC, Sky News / Sports and Chinese State TV, and in a variety of global newspapers and magazines.



What you can do...

Golfer – please play more often, encourage others to play, walk the course if you are able and tell everyone you know about the health benefits of golf

Golf facility – spread the word on golf's health benefits, promote inclusivity, promote safety and sustainability, stock sunscreen and healthy food and drink

Golf industry – work to promote the health benefits of the sport, engage with policy makers, aim to encourage entry level play, consider making facilities multi-functional and encourage participation by all of society

Golf federation – promote the health benefits of golf with your clubs and golfers and look to integrate this into policy, perhaps working closely with your government

Policy maker – work with national federations to promote golf and, where relevant, include golf as a moderate intensity physical activity in policy documents, guidance and recommendations

Scientist – please tell The R&A about your research

“Golf is now connected to the World Health Organization and has developed a relationship with policy makers in the UK and abroad who may now see golf in an improved light.”

DR ROGER HAWKES
Executive Director,
Golf & Health Project

What can be achieved in the future?

Golf has welcomed the completion of the first PhD in golf and health by researcher Dr Andrew Murray, with the evidence available to all as a lasting scientific summary. The work has also provided a focus for other research not directly funded or commissioned, further enhancing public awareness of golf and health. It is now important for golf to maintain the momentum and continue the messaging to key groups, such as policy makers, about the sport's health benefits.

Yet, policy and practice, as a result of research, can take many years before being fully evident. Further time and evaluation are needed to determine the impact of a better understanding of golf and health and increased interest and participation in physical activity, especially through golf.

“When your doctor perhaps encourages you to exercise more, not everyone thinks about golf. But it can actually have huge benefits, to get stronger or lose weight.”

SO YEON RYU
Golf and Health ambassador and two-time Major Champion

For more information, please visit:

- The R&A: <https://www.randa.org/en/theranda/initiatives/golfandhealth>
- The Golf & Health Project: <https://www.golfandhealth.org/>
- The World Golf Foundation: <http://www.worldgolffoundation.org/>
- The World Health Organization: <https://www.who.int/>

References

- The Scoping Review: <https://bjsm.bmj.com/content/51/1/12>
- The Spectator Study: <https://bmjopensem.bmj.com/content/3/1/e000244>
- Spectator Study follow-up: <https://bmjopensem.bmj.com/content/5/1/e000503>
- The International Consensus Statement: <https://bjsm.bmj.com/content/52/22/1426>
- Infographics and digital resources: International Consensus on Golf and Health: <https://bjsm.bmj.com/content/52/22/1421>
- Impact Study: <https://bjsm.bmj.com/content/early/2019/12/18/bjsports-2019-100994>

To fill gaps in knowledge and build on the current research, work continues across various areas of golf and health among researchers. Studies include:

- 1. Parkinson's** – an academic study at Harvard University in the USA with results awaited
- 2. Golf on prescription** – Two 'golf on referral' schemes have been identified and monitored in the UK and are already showing promising results
- 3. The Australian Golf and Wellbeing study** – an international collaborative project between researchers at the University of South Australia, La Trobe University in Melbourne, the University of Oxford and the Golf & Health Project. The aim is to link regular golf participation with measures of health and provide high quality research evidence

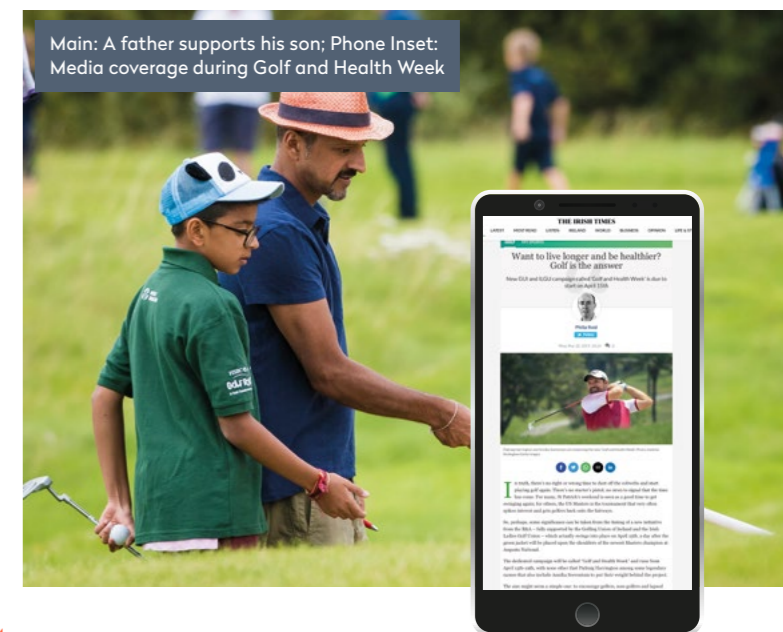
4. Diabetes and golf – a study in Denmark with results awaited

5. Autism – further study to provide evidence on golf's benefits for people with autism

6. Joint replacement – further study to provide more evidence on how to safely get back playing, or starting golf for the first time, following joint replacement. A proposal for a prospective study is being discussed with the prestigious Hospital for Special Surgery in New York City

Identifying health related topics, sharing good practice and encouraging the use of golf club environments in health initiatives remain vital in continuing to build on the work already achieved.

Golf's health benefits can help break down the traditional barriers to attract more golfers.



Over 300 media articles generated from the original research to help promote the health benefits of golf.



And finally, while we have no statistics about the 19th, it should also be enjoyed!





The R&A group of companies was formed in 2004 to take on The Royal and Ancient Golf Club of St Andrews' responsibilities for governing the Rules of Golf, staging The Open, golf's original championship, and developing the sport. The British Golf Museum in St Andrews is part of the R&A group.

Together The R&A and the USGA govern the sport of golf worldwide, operating in separate jurisdictions with a commitment to a single code for the Rules of Golf, Rules of Amateur Status and Equipment Standards. The R&A, through R&A Rules Ltd, governs the sport worldwide, outside of the United States and Mexico, on behalf of over 36 million golfers in 143 countries and with the consent of 158 organisations from amateur and professional golf.

The R&A has responsibility for running a series of world class amateur events and international matches in women's and girls' as well as men's and boys' golf. The R&A stages the AIG Women's Open and works with the European Tour to stage the Senior Open presented by Rolex.

The R&A is committed to investing £200 million over ten years in developing golf and supports the growth of the sport internationally, including the development and management of sustainable golf facilities. For more information, visit www.randa.org.



RandA.org
