

Unique Imaging Combination Delivers a Winning Result On and Off the Pitch

With a unique imaging partnership firmly in place between Toshiba Medical and Manchester United, team physician Steve McNally offers an insight into how cutting-edge scanning equipment is already making a difference on and off the pitch.

Manchesters United's Team Physician and Head of Football Medicine Steve McNally explains how the Toshiba equipment installed at the AON Training Complex five miles away from United's Old Trafford stadium – a 3T MRI scanner, CT scanner and six ultrasound machines – has a whole gambit of benefits.

For the medical staff, and the club's new manager David Moyes who took over from the legendary Sir Alex Ferguson on July 1, the on-site scanning equipment helps keep current players needing treatment and potential new signings away from the glare of cameras, and particularly those attending a medical ahead of a transfer.

Dr McNally, recognising that new signings are big news, said: "The first place that these players often get spotted is at the local private hospital. We have always had an excellent relationship with local hospitals...but we have to get our players there without being seen by the paparazzi.

It is also the same with injuries. If a player is seen walking into hospital with an air cast boot on his ankle and is assumed to be out of the next game that is big news and affects our competitive advantage."

Events have moved swiftly since thoughts first turned three years ago to redesigning the training facility and the potential to significantly enhance the on-site medical facilities.

The medical centre, which will serve around 80 full-time professional players and youth scholars together with approximately 170 academic schoolboys, is now nearing completion; the MRI and CT equipment is set to become operational shortly, and the ultrasound

facility has been in place since January for musculoskeletal examinations and is being configured for cardiac screening.

Cardiac screening, which has long been high on the club's agenda, took on greater relevance and profile in recent months following the dramatic scenes last season when Bolton Wanderers player Fabrice Muamba collapsed during a league game.

Such occurrences are extremely rare – only about one in 200,000 athletes will have an unexplained death usually due to cardiac causes – but Dr McNally says it is vital for Manchester United as a Club employing and developing players to do everything possible to ensure detectable causes for such incidents are identified and he aims to work closely with Toshiba to help further improve detection and diagnosis in this area.

Musculoskeletal screening and looking for intrinsic defects or deficiencies in tendons, joint cartilage, lower back and hip joint development are areas which lend themselves well to imaging in all forms, predominantly ultrasound and MRI but also CT in certain situations where health benefits significantly outweigh the risks of ionising radiation exposure. There is also potential for using imaging to assess body composition and body fat levels.

"Managers and coaches have long held body fat as an important factor in assessing a player's fitness but we are still quite rudimentary in the way we measure that", he said. "If we can develop an image where there is a body map with body fat highlighted in areas we can work on with specific exercises I think that sends a strong message to a player and coach. We can then work on it with specific exercises and nutritional strategies."



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Manchester United's team doctor Steve McNally sees a winning combination in the partnership with Toshiba.

Similarly, with many young players on the club's books, the development and growth of those in their early teens or even younger is important both from the individual's well-being perspective and the club's commercial investment in terms of coaching and contractual agreements. Any predictors of physical development for a young player are invaluable to a coach but Dr McNally stressed the importance of using non-ionising modalities in this respect, wherever possible.

As Team Physician, he also believes there will be an evolving role through the new medical suite – and the equipment it contains – in terms of injury management and prevention.

The game is getting faster each year – the club's statistics from the 2012-13 season show the team had 37% more sprints per game than four seasons ago with more of those being high-intensity sprints – leading to greater injury potential.

Injuries to key players, he explains, can have a “domino effect” on other squad members who may be required to play, even when they may not be totally ready.

For example a long term injury to an experienced player in a key position not only reduces the chances of competition success but may lead indirectly to several other players sustaining injury. Having the latest equipment available means rapid diagnosis of an injury, prompt direction to appropriate rehabilitation or specialist advice, and then monitoring the effects of the treatment interventions.

One of the early benefits will be to continue the improvements in secondary (or re-injury) prevention that have taken place over the past 10 years.

“If a player gets injured now he tends to come back and stay back and also we do not have that knock-on effect on others,” said Dr McNally. “I think the decline in secondary injury rates was aided by club doctors using scanning to monitor things on a daily basis because it added another level of confidence to our diagnostic decisions and the advice we could give to physiotherapists and rehabilitation experts.”

“When an injury occurs, we can very quickly determine whether and which treatment is needed.”

Dr McNally stressed the importance of not rushing players back after injury, but of also not being over-cautious in their return to playing.

“We have to try to pick the right time for the player and the right time for the club and hopefully those two things will continue to improve with the facilities that we have at our fingertips,” he added.

With patient safety paramount, Manchester United is also set to become the first club to set up a ‘radiology passport’ for players, which would record their scans as they move from one club to another. Dr McNally explained that Toshiba was the ideal partner for the club because the equipment specification was exactly what was required; Toshiba has the same ‘can do’ attitude as Premier League Champions Manchester United; has an extensive network of expertise within the company from clinical levels to engineering and technology; offers learning opportunities for Dr McNally and his staff; and the partnership has longevity with a commitment over five years.

But what has been satisfying for both club and manufacturer, at such an early stage of the agreement, is that the partnership is already having a significant impact.

Dr McNally stated that using Toshiba's Aplio 500 system had already made a difference in the latter half of last season and he has been impressed with the resolution and the ability to see things he was not seeing before.

Citing an example of a player who was having problems flat-out sprinting and experiencing localised hamstring pain, he described how ultrasound revealed a focal muscle tear, which was bridging well but was a likely cause of dysfunction in the muscle, so the player was rested for the following game.

“He came back the next week with no problems so hopefully we may have prevented exposure to a potential six to eight week injury by taking a player out and managing him differently,” Dr McNally concluded.

In another example a player had soreness in a calf muscle and a similar small lesion was noted. A treatment regime was implemented on the basis of that early detection, which resulted in the player being available thereafter throughout the season.

The unique initiative – under the strapline “Delivering Premier Clinical Performance” – is already proving a winning combination for Manchester United and Toshiba as together they harness the potential of medical imaging to help keep the world's best footballers at the top of their game. //