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Editorial

"Return to play" after facial injuries: is it time for a consensus view?

The telephone rings: "Mr X has had a fractured jaw repaired but we've been told that he's not to play for three months – we desperately need him – when do you think he can play again?" You see another player with an asymptomatic fracture of the orbital floor: "When can I play again?" These are both hypothetical, but very common.

In addition to the bony injuries, what about the soft tissue wounds? For the latter it is my practice to advise that if the next game is within a week then to keep the sutures in, but strap up the wound if possible. For bony injuries what advice do you give? There are actually no official guidelines and of course every case is different, and each one should therefore be assessed on its merits.

As pointed out by Reehal,[1] facial fractures are common in contact sports, and being familiar with the various types of injuries and differences in severity is vital in preparing a management plan. Is there any science to aid the decision about when to return to play?

A review of all the recent published papers shows that evidence-based research about when to return to play after facial fractures is lacking. Let us look at some science.

Bony healing can be either direct (when the fracture sites are in close proximity) or indirect (where there is formation of a callus, but it begins with an inflammatory reaction and formation of a haematoma, and lasts up to five days after the fracture) (Table 1). So where does this leave us in giving advice to professional sportsmen and women whose careers can depend on the decision we make?

An important contribution came in 2013 when Fowell and Earl[2] wrote a short report about "return to play" guidelines after facial fractures. They undertook one of the few prospective studies looking at 19 patients with 20 facial fractures. Although there were no specific guidelines, 17 of the players returned to play after three weeks. They emphasised that there were no published studies or guidelines, and reiterated that recovery time was invariably proposed as six weeks.

Table 1
Duration of bony healing.

1. No activity for first 20 days
2. Light activity after 21–30 days
3. Non-contact drills after 31–40 days
4. Full contact after day 41
5. In combat sports - no activity before three months

Surely it all comes down to the location of the injury and the sport involved? If one can ensure that the player is pain-free then it does depend on the sport involved. If we look at ball sports (for example, hockey and cricket) then the risk for the participant can be low as they can be protected with head gear. In football, protective masks have been widely used to protect midface and malar injuries, but again there is no scientific evidence that I am aware of to support their use. In rugby, facial protection devices are not allowed so, as medical professionals, we have a difficult call to make - where do we go from here with regards to advice?

I have been involved for over 20 years in looking after professional rugby and football players, and for me the management of facial fractures is not universal but does depend on the site. I will propose some thoughts about management about which I would welcome comment and discussion so that a possible consensus can be arrived at.

In a review by Murphy et al[3] between 2009 and 2010 in Ireland, the most common sports-related maxillofacial injuries were in Gaelic football (35.3%), soccer (22.3%), rugby (12.4%), and equine sports (12.4%), and the most common injuries were fractures of the zygomatic complex (36.4%), mandible (20%), orbit (14.2%), and nasal bones (12.3%). My thoughts on these are as follows.

Nasal injuries

I have found that the most important factor for the player is the ability to breathe. The nasal bones may be displaced, but what concerns the player most is the inability to breathe through the nose – if the septum can be mobilised back into position then they are normally happy. This can be achieved in the medical room. They may not be overly impressed, but they

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will be able to breathe and usually accept the nasal deviation that can be addressed at the end of the season - but again it does rely on the player. Once the discomfort has subsided they can return to play.

When the nose is manipulated then of course it is a closed reduction and the player must be warned that this will be relying on direct healing, so what time do we propose before they can return to play? Often the player will dictate the time but usually, once the pain has resolved, they play knowing that a further impact could displace it, but that is often a risk that they take. Without semirigid fixation one should consider two weeks to allow the swelling to subside, but they must be aware of the risk of further displacement.

Orbital floor

Is this a simple crack – evident because blowing the nose caused them to develop surgical emphysema? Or is it a defect in the floor? Or is it a defect in the medial wall? My policy for a simple crack fracture or asymptomatic defect in the orbital floor is to tell them to refrain from nose-blowing but let them return to play –what's the danger? If they get another blow, then the worst that can happen is that the floor will break further and they develop enophthalmos. Obviously if there are ophthalmic signs such as diplopia or, more importantly, problems with movement of the eye, then this does need investigation and I will do this in conjunction with my oculoplastic colleague. If the floor has been reconstructed then when can they return? I would propose as soon as the discomfort has gone – one week! Again what is the risk and what is to be gained from delay? Just ensure that the benefits and risks are fully discussed with the player – informed consent.

My policy for the medial wall has been to leave it alone while they are playing. Yes, there is a risk of enophthalmos, but equally there is a risk of operating and causing blindness. We then review them if required, but for the elite sportsmen and women that I have dealt with, if it is asymptomatic they prefer to wait and see rather than take time off for an operation with the associated risks.

For isolated infraorbital fractures my worry is that the malar has lost part of its strength, so I will plate these to allow direct healing. They want to know when to return: when it is comfortable – one week is not unusual, but no nose blowing for at least one month. Again there is no evidence to support this length of time either!

Malar fractures

Where there is a displaced fracture then it does require fixation, and as there will be plate fixation then for me - once the discomfort has resolved - they can return to play (usually in one to two weeks). As noted in Table 1, even formation of a callus can take up to 40 days, so I advise players to maintain their fitness in training and return to play once the discomfort has settled. Remember to avoid nose blowing.

What is more difficult is the undisplaced fractured malar – do we advise conservative management or plating? My view is that, if we adopt the former, there will be remodelling around the fracture site that could make it unstable and so potentially prevent the player returning to play for at least four weeks. To allow the player to return sooner, should we not consider plating the frontozygomatic (FZ) suture, which will provide increased strength and allow an earlier return? The benefits and risks should be fully discussed with the player. What are the contraindications? This could allow a return to play within a week. It is certainly my practice, and I have a number of examples of undisplaced malar fractures after which the player has returned to top flight action within a week of plating at the FZ suture with no consequences from the operation.

Mandibular fractures

For mandibular fractures, standard practice dictates open reduction and internal fixation. Once the patient is discharged, and if the fracture is comfortable with a normal occlusion, then what they want to know is "when can I return to play?" As stated above, there is no hard evidence except to say that the healing ends of the bone are held together in semirigid fixation. This is obviously not as strong as the de novo setting, but what is the time period before the area has returned to pre-fracture strength? It is my contention that, as long as they are pain-free and after the benefits and risks have been fully discussed with the players and they know that if there was a direct blow it could re-fracture, what are the contraindications? What is the evidence to say that an extra five weeks will benefit the player when compared to one week when the fracture has been plated?

Using this philosophy, I turn to the undisplaced or crack fracture of the mandible. The recommended plan here is normally soft diet and return to play in four-six weeks, but will elite athletes accept this, for example, at times of European Cup or World Cup matches?

My practice is to adhere to Champy's principles and I put a single plate across the fracture site for all the reasons outlined above. In this way players can return, and I distinctly remember one forward who returned after a week and in the first play of the game received a kick to the affected side of the jaw - and everything was fine. Perhaps I was lucky!

This protocol is a personal approach built up over a long period, but in an attempt to support or contradict this I am currently reviewing facial injuries on the Welsh Rugby Union Database, looking in particular at facial fractures and their management, but importantly also at time to "return to play", and will share these findings in a further paper.

Going forward, I do not think we need didactic protocols, but guidance; players are individuals and if you are associated with club, regional, or international sides as I am, then one

gets to know what the player is like and what he wants. As Folwell and Earl[2] pointed out - beware the "shop-a-docs" who look to get their players back as soon as possible. We must maintain our Hippocratic oath to do the best for the player not the coach, and particularly not for ourselves; with the advent of customised orbital plates, there is a danger of over-treatment of orbital fractures - treating the radiograph and not the patient.

I think we need a national database that we can all enter into at all levels of sport, and which will allow us to review data. I am looking into what is currently available both in units and in national sporting bodies so that further work can be done.

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