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5 **What's Our Role?**
6 **Mental Performance Consultants' Perspectives on**
7 **Supporting Concussed Athletes**
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Abstract

Bloom et al. (2020) advocated that mental performance consultants (MPCs) can play an important supporting role in the psychosocial recovery and well-being of concussed athletes. The rapid advancement of knowledge and limited resources designed for MPCs present challenges in facilitating this support. To address these challenges, a group of MPCs formed a community of practice to help define our role in this domain. In this article, we have attempted to translate our knowledge into an accessible narrative and approach that can help MPCs better understand our role in providing support to concussed athletes throughout the phases of return-to-play.

Keywords: sport-related concussion, return-to-play, sport psychology, community of practice

40 **What's Our Role? Mental Performance Consultants' Perspectives on**
41 **Supporting Concussed Athletes**

42 With new sport-related concussion (SRC) research being published daily, it is
43 important to provide clarity for those in a position to work with concussed athletes, to
44 minimize the murkiness that exists around this complex injury. As such, the purpose of this
45 article is to help clarify the role of the mental performance consultant (MPC) in concussion
46 support, and to share best practices and considerations for MPCs who are in a position to
47 offer psychosocial support to concussed athletes.

48 As MPCs regularly provide psychosocial support to athletes and have been advocated
49 as important professionals to support the SRC recovery process (Bloom et al., 2020),
50 information regarding our role, scope of practice, and boundaries of competency within this
51 complex injury domain is essential. To understand the MPC's position within the SRC
52 landscape, a community of practice (CoP: Wenger et al., 2002) of experienced MPCs was
53 cultivated. This CoP (the six authors on this paper and two additional MPCs) met on a bi-
54 weekly basis and comprised MPCs who have worked with concussed athletes in elite sport
55 contexts across a variety of individual and team sports. CoP meeting discussions centered on
56 SRC symptomatology, research, and management efforts; professional scope of practice;
57 intervention opportunities; collaboration with other professionals; case studies as presented
58 by the MPCs; and collective best practices regarding psychosocial interventions, mental
59 skills, and therapeutic techniques. Two external experts on SRC research and practice also
60 contributed, with presentations on current challenges in research and concussion
61 management, collaborative care, and identifying and clarifying professional lenses; and
62 participating in collaborative discussions to further our collective learning. In an effort to
63 share our learning, this article was collectively undertaken to help translate knowledge from
64 research and this CoP to those working within the mental performance field. The first section

65 presents our proposed best practices in action following a hypothetical SRC injury.
66 Specifically, we discuss a fictional athlete (Laura) and follow her concussion journey (from
67 pre-injury to recovery) from the perspective of an MPC, while simultaneously presenting
68 some strategies that MPCs can employ at various points throughout the injury timeline in
69 response to her specific situations and/or symptoms. In the second section, we then present
70 key considerations and challenges for optimizing MPCs' work with concussed athletes.

71 **Case Study**

72 Laura was a 21-year-old rugby union player in her 4th year on the varsity team. She
73 was a full back, a position where she could use her strength, speed, and agility. She was
74 viewed as a leader and took this role very seriously; she spent time reviewing video with her
75 coaches, checked in with teammates and staff on how others were doing, and was an avid
76 supporter of mental skills training and my role as MPC with the team. In my second year with
77 the team, I felt I had created good working relationships with the coaches, athletes, and staff.
78 I provided biweekly team sessions on mental skills, communication, group and team
79 dynamics, and psychological recovery. This season we were focused on emotional
80 intelligence, self-regulation, and mindfulness. I generally attended practice three times a
81 week, weekly coach and staff meetings, and all the games where I could see how the athletes
82 and staff responded under pressure, checking their mental skill application and progress.

83 During a game Laura caught the ball at pace and was tackled below the knees by an
84 opposing player. As she tried to fight off the tackle another opponent came to help the initial
85 tackler, twisting Laura's body. Instead of making contact with the ground with a proper body
86 position, she landed on her shoulder and her head snapped back and hit the ground hard. She
87 lay on the ground motionless as the ruck formed on top of her. The referee stopped the play
88 and called for medical attention. Initially, I saw no movement, but after she was assessed on
89 the field, the athletic therapist helped her off slowly and they went to the locker room. Later

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90 in the half I went into the locker room to check on Laura. The therapist indicated that Laura
91 was concussed but was doing “OK”, and that she would see the doctor after the game. The
92 therapist asked if I could stay with Laura because she had to stay on the field for the second
93 half, as no other medical professional was available. Laura and I chatted for a few minutes
94 and she told me that she was feeling OK. Laura said that her head and shoulder hurt; she
95 admitted to being knocked out for a few moments but thought that the therapist was
96 overreacting. But Laura just wasn’t herself; she was repeating questions, seemed disoriented,
97 and overly emotional. I encouraged her to relax, but she could not understand why she wasn’t
98 going back in. I listened to her concerns, empathized, and helped her focus on what she could
99 control. I then suggested calming her emotions by using the skills we had practiced in our
100 team sessions.

101 Later, a doctor, having confirmed Laura’s concussion diagnosis, instructed her to rest
102 for 24 to 48 hours, minimize screen time (excluding all screens if possible), avoid bright
103 lights and loud noises, and to keep track of her symptoms and go immediately to the hospital
104 if any of the symptoms got worse (e.g., headache, vomiting). That evening, Laura’s headache
105 got progressively worse, and she admitted to maybe having underplayed her symptoms and
106 went to the hospital for follow up.

107 The first few days following her injury, Laura was diligent about resting and staying
108 off her phone but struggled with being physically inactive. She indicated that she was doing
109 what the doctor and therapist had said but wasn’t feeling any better. In fact, she felt stressed
110 at the thought of her team competing without her, and was questioning how long her recovery
111 would take. She said she was seeing the physiotherapist that day for treatment on her neck
112 and shoulder, as they were both very stiff and sore. I told her that I was available to her if she
113 needed anything and to feel free to text me even if she just wanted to complain about how she
114 was feeling.

115 The next week, Laura had some ups and downs; she wasn't going to classes and
116 started feeling alone and bored as she hadn't seen her teammates or friends for a few days.
117 We revisited self-regulation and mindfulness techniques, and I helped her find ways to relax
118 and breathe that helped lessen her symptoms at times. She hadn't yet spoken to her parents,
119 so I encouraged her to reach out to them as they had been supportive in the past. She told me
120 that she didn't feel like she was progressing; in comparison to a previous ankle injury, she
121 just didn't understand why she didn't feel better after 2 weeks. She was becoming
122 increasingly frustrated and impatient. Laura continued to see the physio for her shoulder and
123 neck, and after 3 weeks she started to feel better, and noticed her headaches were less severe.

124 Feeling a bit better, Laura decided to get out of her apartment and come to a game
125 against our biggest rivals. She seemed alright with not being able to play and wanted to
126 support her team. I stood with her on the side lines during warm-up and she seemed in good
127 spirits; the team and staff were happy to see her and commented on her looking better.
128 During the first half, as I did my usual scan of the environment, I noticed Laura sitting down
129 with her head in her hands. I approached her and she said she was feeling sick and that her
130 headache was "fierce". I reported this to the athletic therapist, who said, "Too much, too
131 soon", noting the loud crowd noise and excitement of the game had likely impacted her
132 symptoms.

133 The next few days, following the acute strain of doing too much, Laura found her
134 symptoms slowly improving. We spoke every two days and worked on some goal setting,
135 positive self-talk, and continued our relaxation exercises. She said, "I am determined to do
136 everything I can to get rid of my symptoms". She felt positive that she had been progressing
137 with her mental skills and mentioned she was cleared by the doctor and therapist to start some
138 light activity that week: just 20 minutes on the bike to see how she felt. Soon, Laura
139 progressed to 40-minute bike rides with moderate intensity, some light weightlifting, and ball

140 handling with some of her teammates, without any worsening or return of her symptoms.

141 After multiple guided progressions, she was cleared for non-contact practice. The first
142 week went well for Laura, despite being tired and a little more emotional in my view. After
143 guided contact progressions with the therapist, she was cleared for contact. Although we all
144 expected her to be eager and ready to go, Laura struggled. She had a short fuse, was quick to
145 be upset when she didn't perform perfectly, and ended many practices in tears. Before her
146 injury, Laura was always confident while running through contact. Now, she was hesitating,
147 recklessly passing the ball, or dropping the ball, which she would never have done in the past.
148 After a particularly bad practice, Laura asked to meet to talk about her confidence. "It was
149 such a normal play. It could happen again" she repeated. We explored those thoughts and I
150 encouraged her to challenge them by exploring the evidence. Laura acknowledged she had
151 been hit that way hundreds of times before and nothing had happened. We then built on her
152 internal narrative and her ability to manage or change her self-talk. We worked on naming
153 and understanding the emotions that came with fear, letting those thoughts go, and calming
154 herself. After numerous sessions, Laura eventually realized that she continued to fear getting
155 another concussion; she kept trying to imagine how her injury happened. I asked her "How
156 did it happen?" Uncharacteristically, Laura couldn't answer. She admitted to not knowing
157 exactly how she lost consciousness, or how she really got hit. She knew she took the ball into
158 contact and wound up with her worst injury. Showing courage, Laura decided that she should
159 watch the film and analyze how she got concussed. She admitted not having watched the
160 injury film due to her fears and all the negative emotions around that hit. I asked, "Well, what
161 if you were to watch it with the support of a coach, or a teammate?". She asked to watch it
162 with me. We prepared with some breathing exercises; Laura watched it, kept calm, and began
163 to analyze. Laura was very critical of how she fell and absorbed the contact from both
164 tacklers. Rather than protecting the ball and her head, she tried making a desperation pass as

165 she was going down, something she had not done before. With a renewed sense of purpose,
166 Laura devised a plan for if ever she was caught by two tacklers: she would either keep her
167 legs moving or protect the ball and go to ground safely.

168 The following practice, Laura looked like her old self again. Looking back on our
169 interactions, I was incredibly thankful for the relationship we had before her injury, and her
170 willingness to lean on me as a source of support in her trying time. Her injury was not an easy
171 one to overcome, but I found a strengthened confidence in how mental skills can support
172 medically-guided rehabilitation in return to play protocols for concussion.

173 **Key Considerations for Supporting Concussed Athletes**

174 In this next section, we present considerations for supporting an athlete with SRC
175 through the phases of the psychological response to injury model: injury onset, rehabilitation,
176 and return to sport (Wiese-Bjornstal et al., 2015), but first discuss how potential support can
177 begin prior to the SRC occurring (pre-injury).

178 **Pre-Injury**

179 The quality of the existing relationships between the MPC, the athlete, and various
180 stakeholders (e.g., teammates, coach, integrated support team; IST) prior to the SRC will
181 impact the MPC's ability to successfully support the athlete following their SRC. Therefore,
182 a key challenge for an MPC is how they build and maintain athlete and team relations. Good
183 quality relationships allow for: an effective therapeutic alliance to be established with the
184 client, supporting any potential interventions provided at concussion onset; an understanding
185 of any potential factors (e.g., current stressors) which may predispose the athlete to have a
186 higher potential for injury (Ivarsson et al., 2017); and, potential inclusion in the SRC
187 management process due to a greater presence within the IST (as seen in Laura's story).
188 Where the MPC may not be embedded within a team or squad of athletes and the support
189 request comes from a referral, building a network of suitably qualified practitioners to draw

190 upon is essential.

191 The degree of presence, visibility, and successful immersion in the athletes’
192 environment (i.e., practice and games) is especially important for building a relationship that
193 will facilitate the ability to support concussed athletes. MPCs may not only ‘have sight’ of a
194 suspected SRC but, because of strong relations with the athlete and a good understanding of
195 that individual, be able to identify abnormal variability in athlete behavior (i.e., potential
196 symptoms) that may provide valuable information for the clinical team. That said, although
197 MPCs are in a position to inform a diagnosis, they should not diagnose, nor give advice on
198 SRC treatment or management. Ongoing presence by the MPC can also ‘normalize’ the
199 MPC’s role in the immediate SRC identification and management process, and play a role in
200 facilitating a psychologically safe climate where athletes are comfortable disclosing their
201 injury experiences. Given that intra-personal factors (e.g., lack of knowledge, internal
202 pressure) have been associated with disclosure (Kerr et al., 2014), the MPC can also play a
203 role in educating athletes regarding concussion knowledge and management, which may be
204 of particular importance for adolescent athletes (Ferdinand-Pennock et al., 2020).

205 A final consideration for an MPC’s practice pre-injury is their own knowledge and
206 understanding of SRCs and concussion management (i.e., symptoms, behaviors; track, court,
207 or pitchside protocols; medical concussion management rules). Resources like the latest
208 Consensus Statement on concussion in sport (McCrory et al., 2017), practical guidance on
209 first aid triage (e.g., Hockey Canada, Concussion Legacy Foundation apps), and the specific
210 injury protocols from the MPC’s team or sport will assist in developing this knowledge and
211 understanding. When informed, MPCs can help educate athletes on what to expect, while
212 removing unnecessary additional anxieties around uncertainty. A challenge for an MPC here
213 is identifying and advocating for their role in the SRC management process within a
214 particular team or group. The development of MPC-specific education (e.g., SRC “first aid”

215 for MPCs) would help inform MPCs about their role in SRC management processes, and may
216 be especially important for MPCs not embedded within a team or IST.

217 **Injury Onset**

218 When a concussion occurs the MPC may be the first point of contact with the athlete.
219 The athlete may disclose the injury to the MPC, another athlete might raise concerns about a
220 fellow athlete, or the MPC might observe signs and symptoms. Thus, we suggest the potential
221 role of the MPC could be in providing immediate, onsite emergency care or psychological
222 ‘first aid’. MPCs may be able to assist the medical team in identifying symptoms that might
223 have been missed (e.g., behavioral change that would not be known without knowing the
224 athlete pre-injury). Importantly, the MPC must know their role and stay within their scope of
225 practice (e.g., not give advice on medical matters).

226 Following contact with the athlete, irrespective of the context, the next stage of
227 psychological first aid, if the process hasn't already occurred, is to encourage the athlete to
228 see a doctor for diagnosis. If there is no access to medical support, the athlete should be
229 encouraged to go to the hospital. There may be issues around confidentiality at this point, as
230 the athlete may have chosen to disclose in confidence and not want the medical team to
231 know. MPCs should prepare in advance for such scenarios and identify clear and ethical
232 strategies to ensure the welfare of the athlete. This may include developing an ethics section,
233 which can be included in a confidentiality statement provided to the client (organization/team
234 when embedded) to address such boundaries of competency.

235 Immediately post-concussion, the MPC may also be in a position to support the
236 athlete. This might include accompanying the athlete to the hospital or staying with them in
237 the medical waiting room. Emotional support through listening and maintaining
238 communication, or helping the athlete shift environments (away team/overnight stays,
239 competitions/events, etc.) may also be important. Again, as MPCs in these contexts, we are

240 not responsible for the athlete's physical health, and there are clear established boundaries for
241 medical roles. Instead, it is important for the MPC to be fully briefed on the team or sport's
242 medical plan/protocol for such occasions, and provide support as needed.

243 **Rehabilitation**

244 Following the acute injury onset phase, the MPC may support the concussed athlete
245 through their rehabilitation. One strategy is psychoeducation; this may involve the
246 practitioner educating themselves to lead conversations regarding SRC experiences and
247 helping the athlete understand and normalize their symptoms. Psychoeducation could also
248 involve providing information or concussion resources (e.g., web resources) to give the
249 athlete a degree of control/autonomy in their recovery; as well as to educate, inform, raise
250 awareness, and provide assistance. The concussed athlete is also likely to experience a range
251 of symptoms and the MPC can help the athlete develop strategies to manage these symptoms
252 (see Table 1 for common strategies used by practitioners with their concussed athletes'
253 symptoms, experiences, and needs; cf. Seguin, & Durand-Bush, 2019).

254 As with other injuries, beyond the MPC providing direct support, they can facilitate
255 the athlete's engagement in social support networks. For example, connecting the athlete with
256 another injured athlete; or encouraging coaches, teammates, to reach out. An additional
257 function of the MPC in the rehabilitation phase, is to gauge how the rest of the team or
258 support staff is interpreting the situation and the SRC experience. Having a social and
259 cultural understanding of the athlete's environment will further facilitate and refine any
260 psychological-based interventions the MPC has designed in conjunction with, or in addition
261 to those of the medical staff, helping ensure a positive and supportive climate.

262 The complex nature of concussion often results in a longer rehabilitation than
263 expected, and in some cases, eventually necessitates exit from the sport. An MPC may be
264 able to offer longer term support in these cases; for example, MPCs who have an established

265 referral network may be able to provide a clinical referral to an athlete who is experiencing
266 mental health issues that may result from prolonged concussion experiences. The facilitation
267 of resilience and coping skill development (e.g., including life balance, identity development)
268 may also be beneficial to an athlete transitioning from sport. Here, different resources and
269 referral options may be necessary while MPCs stay within their scope of practice.

270 **Return to Sport**

271 In the return to sport phase of an athlete's recovery from SRC, MPCs should build on
272 the mental skills developed prior to injury and in earlier injury phases, and support the athlete
273 in developing a set of strategies to deal with return-to-sport demands. As with all stages of
274 recovery, the athlete's return to sport should be medically informed and psychologically
275 supported. A number of stressors are commonly experienced as athletes return to sport; for
276 example, fear of re-injury, returning to pre-concussion performance levels, and general
277 internal and external expectations (Podlog et al., 2011). To manage these stressors, a number
278 of coping skills can be fostered to help the athlete maintain motivation and enhance
279 confidence (see Table 1). The MPC has a role in facilitating an athlete's psychological
280 readiness to return to play. Return to sport is often a non-linear process and the athlete may
281 be prone to re-injury. Psychologically, re-injury presents a new set of stressors, in addition to
282 the athlete having to repeat various stages of the graduated return to play protocols, with
283 often more intense psychological and physical processes (e.g., heightened anxiety).

284 Once the athlete has successfully returned to sport, the MPC has a role in continuing
285 to help the athlete maintain or manage their performance expectations. If the MPC is within
286 the athlete's environment, they may observe the athlete as they resume training and
287 competing, and observe reactions to challenges upon sport re-entry.

288 **Concluding Thoughts**

289 In offering specific suggestions for the role of the MPC in supporting concussed

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290 athletes we hope we have identified that we as MPCs can not only support the athlete
291 themselves, but also the athlete's environment. Indeed, there is a need to consider the social
292 and cultural factors that impact each aspect of the athlete's SRC experience, as well as the
293 MPC's level of competency. Also helpful is the consideration of the level or ability of the
294 athlete (elite, amateur, collegiate, youth sport) as this will affect what resources/network the
295 athlete is able to access. This may be especially pertinent for those transitioning from sport or
296 out of an elite context, where the ability to access a support/resource network is likely greatly
297 affected by the social resources available. In addition, where athletes are not part of a team or
298 squad environment and the MPC has provided support through private or individual referral,
299 we urge MPCs to look at how they can facilitate client access to such resources. Here, scope
300 lies for development of suitable resources for both athletes and MPC to aid such processes.
301 Finally, irrespective of the context of support, we reiterate the importance of the MPC
302 operating within the boundaries of their competency. As an MPC our role is not to diagnose
303 or guide treatment for concussed athletes, but to support them through their experiences.

304 **Word Count: 3610**

305 The authors confirm that the data supporting the findings of this study are available
306 within the article.

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345 **Table 1.**
 346 *Common psychological skills and techniques used by practitioners.*

Symptoms/Experiences/Needs	Psychological Skills	Common Techniques
<ul style="list-style-type: none"> ● Identify symptoms & symptom triggers ● Behaviors which limit exposure to symptom triggers ● Behaviors that lead symptoms to worsen 	Self-Regulation	<ul style="list-style-type: none"> ● Self-monitoring (e.g., daily symptom/behavioral logs; activity and symptom threshold documentation)
<ul style="list-style-type: none"> ● Controllability/locus of control ● Inability to see progress ● Well-being mindset and leveraging performance mindset to adhere to rehabilitation protocols 	Goal-Setting/ Goal- Management	<ul style="list-style-type: none"> ● Support goal development and adherence with medical team/return-to-sport protocols ● Emphasize “revisit, revise” of SMARTER goals for flexibility in recovery process
<ul style="list-style-type: none"> ● Pain/muscle soreness ● Headaches ● Decreased arousal ● Counter stress response ● Energy conservation ● Manage sleep disturbances ● Challenge fatigue ● Heightened emotions 	Relaxation	<ul style="list-style-type: none"> ● Active or passive progressive muscle relaxation ● Breathing exercises ● Meditation
<ul style="list-style-type: none"> ● Internal dialogue ● Locus of control ● Attention/focus 	Self-Talk	<ul style="list-style-type: none"> ● Reframing negative self-talk ● Focus on process vs. outcomes ● Affirmations to normalize experience
<ul style="list-style-type: none"> ● Skill maintenance ● Resilience ● Recovery ● Enhance rehabilitation effectiveness ● Manage emotions/pain 	Imagery	<ul style="list-style-type: none"> ● Abstract or targeted healing imagery ● Mental practice of rehabilitation exercises and outcomes ● Sport specific mental rehearsal
<ul style="list-style-type: none"> ● Acceptance ● Present-focused ● Non-judgmental of recovery process 	Mindfulness	<ul style="list-style-type: none"> ● Centering ● Informal or formal meditation exercises/audio ● Labelling emotions and thoughts

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347 *Note.* The skills presented have been adapted from Seguin & Durand-Bush (2019) and
348 include others as identified in the included narrative, and represent common skills and
349 techniques used by practitioners to support their concussed athletes' symptoms, experiences,
350 and needs. The skills presented are not intended as an exhaustive list.
351