



The multiligament knee— not so complex to treat if the appropriate principles are respected

Even for experienced knee surgeons, the multiligament injured knee is a challenge. The challenge in these situations is to perform an accurate diagnosis in a timely manner and to establish the appropriate treatment for each patient. In contrast to common lesions such as an isolated anterior cruciate ligament tear, patients with multiligament injured knees are very heterogenous and it is often not always possible to follow an algorithm. The rationale for this special issue of *Annals of Joint* was to present an evidence-based approach from world leaders in the field regarding these injuries in order guide knee surgeons in this difficult and long way for treatment.

The first obstacle for the surgeon is to perform the correct diagnosis. In acute situations it is often challenging to perform a comprehensive physical examination due to pain and subsequent guarding, making examination under anesthesia a key part of the diagnosis as it is intrinsically more reliable. Fabio Angelini and Marcelo Bonadio led this article and brought up tips and tricks for an accurate diagnosis. The other important cornerstone for diagnosis is imaging evaluation. Currently, several techniques have been validated to quantify the extent of the injury and to rule out associated soft tissue damage including regular and stress radiographs, magnetic resonance imaging, and computer tomography. Paulo Helito and Pieter Van Dyck outlined the indications and nuances of each imaging technique to aid in a correct assessment of a multiligament knee injury.

Once the correct diagnosis is performed, surgical treatment is usually indicated. Stefano Zaffagnini described the current evidence for external fixators before and after knee ligament reconstructions. Several anatomical and non-anatomical techniques exist for medial and lateral sided injuries. Pablo Gelber elegantly presented how medial sided reconstructions are performed and Carlos Franciozi described the current evidence for lateral sided reconstructions. Regarding central pivot injuries in the context of a multiligament reconstruction, Robert LaPrade presented his available literature and his vast experience in treating these injuries in his chapter of combined ACL and PCL injuries. Bertrand Sonnery-Cottet, contributed with his experience on the combined ACL and anterolateral corner injuries, presenting the results of his groundbreaking research.

All these reconstructions are challenged by the limited real state of the femoral epiphysis, increasing the risk of tunnel convergence, especially if all procedures are performed in one time. Gilbert Moatshe and Lars Engebretsen were responsible for the article on how to avoid this frequent issue. Of note, in chronic cases, limb alignment plays a key role in the success of these procedures. Alan Getgood presents classic and novel concepts of planning and execution of osteotomies associated with reconstructions in case of malalignment. Additionally, one serious condition that is sometimes overlooked in the multiligament knee injuries literature is the patellofemoral joint. Seth Sherman presents valuable information on how to recognize and treat this condition. Last but not least, Luke O'Brien detailed important factors on rehabilitation, showing that is possible to return to play after these injuries.

Finally, we hope that this special issue can stimulate discussion and curiosity among the readers, to improve our current surgical practice.

Acknowledgments

We thank all authors that helped to shape this issue and also *Annals of Joint* for this opportunity to lead an issue in this important subject.

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *Annals of Joint* for the series “The Multiligament Injured Knee”. The article did not undergo external peer review.

Conflicts of Interest: Both authors have completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/aoj.2018.11.17>). The series “The Multiligament Injured Knee” was commissioned by the editorial office without any funding or sponsorship. CPH and JC served as the unpaid Guest Editors of the series. JC reports consulting fees from Conmed, smith & nephew, Arthrex and Ossur. The authors have no other conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Received: 22 November 2018; Accepted: 09 December 2018; Published: 10 December 2018.

doi: 10.21037/aoj.2018.11.17

View this article at: <http://dx.doi.org/10.21037/aoj.2018.11.17>

doi: 10.21037/aoj.2018.11.17

Cite this article as: Helito CP, Chahla J. The multiligament knee—not so complex to treat if the appropriate principles are respected. *Ann Joint* 2018;3:105.