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**MRI and clinical patterns in adults with symptomatic meniscal tears necessitating knee surgery**

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Despite their prevalence, the precise mechanism of meniscal tearing is unknown. In this study, the MRI appearances of the knees of 58 patients undergoing surgery for meniscal tears were analysed. Cases were selected retrospectively from one surgeon’s database of 281 patients who underwent arthroscopic knee surgery consecutively between 2010 and 2014. Exclusions included 69 patients without meniscal tears, 32 with complex operations and 122 whose pre-operative MRIs were unavailable. Clinical information was obtained from *pro formas* completed by the surgeon during clinic and upon operation. All 58 MRI scans were studied by one observer using a novel *pro forma* consisting of a series of closed questions to systematically gather data from MRI scans*.* When this *pro forma* was applied to 10 randomly selected scans, intra-observer repeatability was 82.4% whilst inter-observer repeatability was 68.0%. The mean age of the 58 patients was 51.3±12.7 years. Of these, 74.1% were male and 43.1% were right knee cases. Medial (MM) and lateral meniscal (LM) tears accounted for 86.2% and 37.9% of knees, respectively. MM tears most commonly involved both middle and posterior thirds (41.4% of knees), whereas LM tears most commonly involved all thirds (27.6%). Tears in both menisci were commonest in the horizontal plane, with 58.6% MM and 70.7% LM. Extrusion was 2.5 times commoner in the MM. We propose that the coronary ligaments and ligaments connecting the medial collateral ligament (MCL) and MM might contribute to the pattern of meniscal tears in view of the following observations: (a) the prevalence of tears and extrusion in the MM over LM might result from forces transmitted in these ligaments, which are enriched by attachment to the MCL medially, but not the LCL laterally; (b) the coronary ligaments are attached to both menisci in the horizontal plane: the plane in which most meniscal tears occur; and (c) on MRI scans, the commonest location of tears in the MM approximated the insertion into the MM of these MCL-MM ligaments. We therefore hypothesise a role for the coronary ligaments and these MCL-MM ligaments in force transmission during meniscal tearing.