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Irene H. Ludwig

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Irene H. Ludwig

Video 5.2 Scar Migration. Lateral rectus scar migration and small scar stretch in 9-year-old with small consecutive esotropia.

Irene H. Ludwig

Video 5.3 Pulled-in-Two Syndrome (PITS). This 54-year-old woman had consecutive exotropia develop gradually over years, after having undergone bilateral medial rectus (MR) muscle recession as a child for esotropia. During this surgical procedure, bilateral stretched scar repair was being performed. The right MR repair had been performed uneventfully, but during left MR repair, the muscle ruptured in two at the musculotendinous junction, leading to a lost MR muscle. Its retrieval and direct repair are demonstrated in this video. After the surgery, her husband related that she and her family members suffered from other manifestations of collagen weakness with multiple orthopaedic injuries and dysfunction related to joint hypermobility.

Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Monte A. Del Monte

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Monte Stavis

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Irene H. Ludwig

Video 27.2 Stretched Scar 2. Bilateral medial rectus muscle stretched scar repair in an 8-year-old girl with consecutive exotropia.

Irene H. Ludwig

Video 27.3 Stretched Scar with Flip-Over. Left medial rectus stretched scar repair in a 9-year-old. Identification of scar stretch required disinsertion of muscle and inspection of underside.

Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

Video 28.3 Amniotic Membrane Graft. Amniotic membrane grafting in restrictive strabismus.

Irene H. Ludwig

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Irene H. Ludwig

Video 29.2 Left Inferior Rectus Muscle (IR) Flap Tear Causing Left Hypertropia, Comparison to Normal Right Inferior Rectus Muscle. Left IR flap tear in young man with left hypertropia. Normal right IR muscle is compared.

Irene H. Ludwig

Video 29.3 Flap Tear Right Inferior Rectus (IR) Muscle. Right IR flap tear in 39-year-old woman with diplopia following right orbital floor fracture, which was repaired.

Irene H. Ludwig

Video 29.4 Longitudinal Flap Tears Causing Exotropia and Convergence Insufficiency. Exotropia (25 diopters) and convergence insufficiency (40 diopters) in a 7-year-old child with a history of facial impact from a fall.

Irene H. Ludwig

Video 29.5 Clean Longitudinal Flap Tear. Exotropia (30 diopters) and convergence insufficiency (40 diopters) in a 7-year-old boy with no specific history of trauma, but bilateral substantial inferior rectus (IR), and small medial rectus muscle flap tears. The right IR muscle flap repair is demonstrated in this video.

Irene H. Ludwig

Video 29.6 Small Flap Tears. Small flap tears in a 58-year-old woman with a 33-year history of strabismus, large right hypertropia, and exotropia.

Irene H. Ludwig

Video 29.7 Bilateral Medial Rectus Muscle and Inferior Rectus Muscle Flap Tears. Flap tear of the inferior and medial rectus muscles presumably due to childhood trauma in a 32-year-old woman who had recurrent exotropia and persistent right hypertropia despite previous bilateral lateral rectus muscle recessions. Repair caused small consecutive esotropia.

Irene H. Ludwig

Video 29.8 Large Angle Exotropia Due to Severe Medial Rectus Muscle (MR) and Inferior Rectus Muscle (IR) Flap Tears. A 63-year-old woman presented with a history of exotropia beginning in her 20s (presumably due to repeated spousal abuse) and gradually increasing with age. She had a history of glasses and patching at age 11. Exotropia measured 66 diopters at distance and 85 at near, with left hypertropia of 20, greater on left gaze and downgaze. Large flap tears of the IRs were repaired, the lateral rectus muscles were recessed 9 mm, and lamellar tears of the MRs were repaired. Exotropia of 25 diopters at distance and 30 at near persisted, so the MRs were explored. Posteriorly retracted lamellar flaps, which had been missed at the first repair, were located and repaired, resulting in consecutive esotropia of 12 diopters. This video details the second surgery.

Irene H. Ludwig

Video 29.9 Large Angle Exotropia (XT) Corrected by Repair of Lamellar Medial Rectus Muscle (MR) Flaps. A 63-year-old woman developed noticeable XT about age 52 but thought her fusion had not been normal since childhood. There had been an automobile accident 35 years earlier, in which she had suffered impact to the left side of her face and head. She had 50 diopters XT and 4 diopters left hypertropia. Repair of lamellar flaps of the MRs and a small left inferior rectus muscle tear resulted in exophoria of 8.

Irene H. Ludwig

Video 29.10 Medial Rectus (MR) Muscle Lamellar Malattachment in an Infant. A 9-month-old girl had had exotropia since birth. Repair of lamellar defect of the MR muscles corrected the deviation.

Irene H. Ludwig

Video 29.11 Very Small Flap Tear. A 64-year-old man with a long history of head tilt and vertical diplopia undergoes repair of a small beveled flap tear of the left inferior rectus muscle.

Irene H. Ludwig

Video 29.12 Posterior, Deep Inferior Rectus Muscle (IR) Flap Tear and Inferior Oblique Muscle (IO) Transection. An elderly gentleman had diplopia with left hypertropia, which was corrected for 10 years with left IO recession by the author. Diplopia returned and the left IO was found to have a flap tear, but repair produced only partial correction. Reexploration disclosed midbelly rupture of the IR and IO, which are repaired in this video. After surgery he did recall a fall with facial impact shortly before his diplopia had returned, but 10 years after the initial IO recession.

Irene H. Ludwig

Video 29.13 Traumatic Adhesions between Inferior Oblique Muscle (IO) and Inferior Rectus Muscles (IR). This 13-year-old had had uncomplicated recession of the medial rectus (MR) muscles for deteriorated accommodative esotropia several years earlier. Six months before this visit, her parents had noticed a significant change in her alignment, with exotropia (XT) and variable hyperdeviation. A new onset 10-diopter XT with overacting IOs was seen for the first time. Questioning about trauma did produce a history of a severe facial injury from a hockey stick.

Videos

Bilateral IR trauma and small right MR muscle trauma were discovered and repaired, restoring her alignment. The unusual feature was the finding of adhesions between the left IO muscle belly and the left IR insertion, distorting the actions of both muscles. This video summarizes that finding and repair.

Irene H. Ludwig

Video 29.14 Esotropia Due to Flap Tears (1). A 33-year-old man had developed esotropia at age 20. Bilateral large medial rectus muscle recessions had produced no effect, and he presented with persistent 50 diopters esotropia. Surprisingly, large flap tears of both inferior rectus (IR) muscles were found and repaired. Each had adhesions between the midmuscle tear and the medial orbit. The right lateral rectus (LR) was resected 8 mm during the initial surgery. He then underwent 9-mm resection of the left LR muscle 2 months later for residual esotropia. He has maintained long-term esophoria of 2 diopters. This video shows the right IR muscle repair.

Irene H. Ludwig

Video 29.15 Esotropia Due to Flap Tears (2). A 57-year-old man with esotropia of 35 and right hypertropia of 14 at distance, and esotropia 35 and right hypertropia 6 at near corrected by repair of bilateral inferior rectus muscle flap tears and recession of the previously recessed left medial rectus muscle from 4-mm to 7-mm position. After 1.5 years, alignment measured ortho at distance, exophoria of 8 at near, and 100 seconds stereopsis.

Irene H. Ludwig

Video 29.16 High AC/A Ratio Due to Combined Trauma. Bilateral large flap tears of the inferior rectus muscles with associated superior rectus (SR) muscle–lateral rectus (LR) muscle band rupture, LR muscle inferior displacement, and SR muscle nasal displacement, leading to markedly high accommodative convergence to accommodation (AC/A) ratio in a young child. This began shortly after a fall with facial impact on a metal staircase.

Irene H. Ludwig

Video 29.17 Pulley Tear with Right Inferior Rectus Muscle (IR) Restriction without Muscle Tear. A middle-aged man had a history of head tilt and diplopia for many years. He had right hypotropia and extorsion. The right IR muscle was intact, but its pulley and intermuscular septal tissues were torn and adherent to the orbital rim, causing the motility restriction. Repair released the restriction.

Irene H. Ludwig

Video 29.18 Lost Right Lateral Rectus (LR) Muscle. This woman had unilateral consecutive esotropia resulting from unilateral childhood exotropia repair, with several unsuccessful attempts at correction. In this video, the iatrogenically lost right LR muscle is recovered and reattached.

Irene H. Ludwig

Video 30.1 Pulley Posterior Fixation. Pulley posterior fixation of the medial rectus muscle.

Irene H. Ludwig

Video 30.2 Sagging Eye Syndrome (1). Lateral rectus muscle myopexy for sagging eye syndrome, left eye.

Irene H. Ludwig

Video 30.3 Sagging Eye Syndrome (2). Combined angled resection and myopexy for sagging eye syndrome, bilateral.

Irene H. Ludwig

Video 30.4 Displaced Medial Rectus Muscle (MR) and Exotropia (XT). Bilateral MR myopexy in a child with A-pattern XT and intorsion due to inferiorly displaced MR muscles.

Irene H. Ludwig

Video 30.5 Myopexy for Displaced Left Superior Rectus Muscle (SR). A 67-year-old gentleman with 3 diopters left hypotropia and substantial intorsion, corrected by myopexy to a nasally displaced left SR.

Irene H. Ludwig

Video 30.6 Pulley Sleeve Fusion. Pulley sleeve fusion (lateral rectus muscle [LR] to superior rectus muscle [SR]) with myopexy to treat acquired esotropia in a child due to deficient LR–SR band, bilaterally.

Irene H. Ludwig

Video 30.7 Heavy Eye Syndrome (1). Heavy eye syndrome in a young man with unilateral high myopia, corrected with lateral rectus (LR) muscle to superior rectus muscle pulley sleeve fusion and LR muscle myopexy.

Irene H. Ludwig

Video 30.8 Heavy Eye Syndrome (2). Heavy eye syndrome in a middle-aged woman with extremely high myopia not resolved by previous recess-resect procedure.

Irene H. Ludwig

Video 30.9 Pulley Repair. Trauma may disrupt the perimuscular tissue without avulsing the muscle itself. Resulting distortion of the pulleys can displace the muscle, alter its function, and contribute to strabismus. This video demonstrates three such cases.

Irene H. Ludwig

Video 31.1 Botox and Bupivacaine Injection for Exotropia (OD).

Alan Scott and Talita Namgalies

Video 31.2 Botox and Bupivacaine Injection for Exotropia (OS).

Alan Scott and Talita Namgalies

Video 31.3 Botox and Bupivacaine Injection for Esotropia.

Alan Scott and Talita Namgalies

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Seyhan B. Özkan

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Maria Felisa Shokida

Video 32.2 Inferior Rectus Recession with Safety Stitch.

Maria Felisa Shokida

Video 32.3 Superior Rectus Muscle Recession with Adjustable Suture.

Maria Felisa Shokida

Video 32.4 Postoperative Adjustment and Safety Stitch.

Maria Felisa Shokida

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Maria Felisa Shokida

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

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Irene H. Ludwig

Video 34.3 Multiple Myotomies. Multiple myotomies right inferior rectus muscle.

Irene H. Ludwig

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Irene H. Ludwig

Video 35.1 Temporal Transposition of Superior Rectus Muscle and Inferior Rectus Muscle with Augmentation Sutures. Transposition of the left superior and inferior rectus muscle insertions with temporal augmentation sutures and botulinum toxin injection to the medial rectus muscle, for complete left sixth cranial nerve palsy.

Irene H. Ludwig

Video 35.2 Superior Transposition of Lateral Rectus Muscle and Medial Rectus Muscle with Medial Rectus Muscle Resection and Augmentation Sutures. Superior transposition of the medial and lateral rectus muscles with superior augmentation sutures and medial rectus resection for partial third cranial nerve palsy.

Irene H. Ludwig