Supplementary Table 1. Summary of studies on cryopreserved amniotic membrane transplantation during extraocular muscles surgery.[21, 53-63][a]

Study	Type of study	Sample size (patients / rabbit eyes)[b]	Type of AM	AM size	AM orientation (surface towards muscle)	Suture fixation of AM	Condition treated	Follow-up duration / Outcome
Kassem et al.[53]	Experimental	20 (10 AM, 10 C)	Human, cryopreserved	-	Stroma (2 inadvertently folded, epithelium externally)	Sutureless wrap around muscle	-	6w - AM present in 80%, with periamniotic inflammation, and absent adhesions in the segment of AM presence, but present elsewhere. -Adhesions in 100% of C eyes. -FB inflammation: AM>C (p=.031) -Insignificant differences between AM and C eyes in: muscle fibrosis, conjunctival and scleral inflammation and conjunctival hyperemia (p>.05).
Kirsch et al.[54]	Experimental	44 (22 AM, 22 C; Stage 1: 34, Stage 2: 10)	Human, cryopreserved	5X10mm	Stroma	Sutureless wrap around muscle	-	Stage 1: 15 d Stage 2: 30 d 1.Dynamometry (force to displace eye): C>AM (Stage 1, p=002,

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								Stage 2, p=.713) 2.Histopathology (Stages 1 &2): -Fibrosis: AM<C (p<.05) -Inflammation: AM>C (p<.05)
Chun and Rhiu[55]	Experimental	20 (10 AM, 10 C)	Rabbit, cryopreserved allograft	-	Stroma	Sutureless wrap around muscle	-	4 w 1.Histopathology: -AM intact in 80% -Fibrosis and inflammation: AM<C (p<.05) 2.Real-time PCR analysis: -Inflammatory and oxidative cytokines AM<C (p<.05) -Anti-inflammatory cytokines AM>C (p<.01)

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Sierra et al.[56]	Experimental	80: 20: C, no surgery 30: AM, surgery with AM 30: no AM, surgery without AM	Equine, cryopreserved	5mm	Stroma	None	-	-30, 60 and 90d: 10 AM, 10 no AM at each 1.Recovery of active behaviour (force exerted by muscle after electrical stimulation): AM vs no AM (p>.05) 2. Recovery of passive behaviour (resistance to deformation on stretch): AM at 30 d, no AM at 60 d.
Sheha et al.[21]	Clinical, case report	1	Human, cryopreserved	5X15mm[e]	Stroma	Sutureless wrap around muscle	Consecutive XT 90PD & -3 limited adduction after 3 previous strabismus surgeries	14 m Orthotropia, normal ductions
Strube et al.[57]	Clinical, retrospective	7	Human, cryopreserved (Amniograft, Bio-Tissue, Inc., Miami, FL)	-	Epithelium	Fibrin glue (+ 7-0 Vicryl in 1 case) to fix AM sheet over	Restrictive strabismus after periocular surgeries.	5-13 m -Success in 6/7: relief of pain & diplopia, no complications except dislocation of AM in 1.

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						bare sclera		-1 had recurrence of scarring & persistent diplopia
Frangouli and Adams[58]	Clinical, retrospective	8	Human, cryopreserved	-	Epithelium	-	-7 with hypotropia and inferior conjunctival fibrosis and 1 with consecutive horizontal deviation. -6 after 1-5 strabismus surgeries and 2 after periocular surgeries.	15 m -Objective and binocular vision improvement in 6/8 -Hypotropia improved from 32.1+/-13 PD to 19.75+/-11.4 PD.
Ahmad et al.[59]	Clinical, retrospective	48 (1 strabismus case)	Human, cryopreserved (AmnioGraft, Biotissue Inc, Miami, FL)	-	-	-	Extensive conjunctival scarring after superior oblique spacer. Spacer was removed, and suture-guarded tenotomy was placed with AMT above and below the suture.	Successful, without complications.
Kassem et al.[60]	Clinical, prospective, controlled	30 (15/12 AM, 15 C)[c]	Human, cryopreserved	5X30 mm[e]	Stroma	Sutureless wrap around muscle	Persistent strabismus after previous strabismus surgeries.	-AM: 6.7+/-1.8 m -C: 6.4+/-1.7 m -Successful outcome (0-10PD

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								horizontal tropia, 0-4PD vertical tropia, duction limitation 0 to -1): AM: 58%, C: 47% (p=.63). -Cosmetic outcome (0-15PD tropia): AM: 83.3%, C: 80% (p=.48). -Deviation improvement: AM: 30+/-19.6PD, C: 27.93+/-24.2PD (p=.75). -Ductions improvement: AM in 66.7%, C in 36.4%, of muscles with limited motility (p=.019).
Kassem[61]	Clinical: Another reoperation on MR muscles that had been previously recessed and wrapped with AM. No AM used on this third reoperation.	1	Previous reoperation: human, cryopreserved	Previous reoperation: 5X30 mm[e]	Previous reoperation: Stroma	Previous reoperation: Sutureless wrap around muscle	Persistent consecutive ET after 2 previous strabismus surgeries	-Extensive adhesions found on exploration of MR muscles. -Hook could be easily passed under MR muscles.
Kassem et al.[62]	Clinical, prospective. Long-term follow-up of AM group of	15[d]	Human, cryopreserved	5X30 mm[e]	Stroma	Sutureless wrap around muscle	Persistent strabismus after previous	-25.4+/-25.5 m, maximum 85 m.

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	the previous study.						strabismus surgeries.	-Successful outcome: 46.7%. -Cosmetic outcome; 66.7% -Deviation improvement: 28+/-18.12PD -Ductions improvement: in 57.1% of muscles with limited motility.
Kassem et al.[63]	Experimental	52 (36 AM, 16 C)	Human, cryopreserved	-	3 AM Groups: -S: Stroma, 15 eyes -E: Epithelium, 9 eyes -F: Folded AM, epithelium externally, 12 eyes	Sutureless wrap around muscle	To compare different AM orientations	6 w -In 100% of AM eyes, AM present, with peramniotic inflammation and absent adhesions in the region of AM presence, but present elsewhere. -Adhesions present in 100% of C eyes. -FB inflammation: C < AM groups ($p<.05$); S vs E vs F ($p>.05$). -Conjunctival inflammation, conjunctival vascularity and muscle fibrosis: Insignificant

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								differences among AM groups and between AM groups and C ($p > .05$).

AM = Amniotic membrane; m = month(s); w = week(s); d = day(s); ET = Esotropia, XT = Exotropia; MR = Medial rectus; [a] One study [50] evaluating both dried and cryopreserved AM grafts is mentioned in Table 2 and excluded from this Table, [b]= AM = Amniotic membrane group, where rectus muscle surgery was performed with application of an amniotic membrane graft; C = Controls where the same rectus muscle surgery was performed but without an amniotic membrane graft. An exception is the study by Sierra et al.,[56] see above; [c] = 3 patients of AM group were excluded due to incomplete follow-up (< 3 m), so documented results are for 12 AM and 15 C patients; [d] The 3 formerly excluded patients of group AM later returned for follow-up and were included in the long-term follow-up study= ; [e] =AM segment wrapped around the muscle, extending for 5 mm along the length of the muscle.