

1 **s-Methods**

2 *Identification of trials and search method*

3 Text words with key terms for electronic databases:

4 **1. PubMed, The Cochrane Collaboration Central Register of Controlled Clinical**
5 **Trials and Cochrane Database of Systematic Reviews :**

6 (“rotator cuff” OR subacromial OR sub-acromial OR impinge* OR supraspinat* OR
7 infraspinat* OR subscapular* OR “teres minor”)

8 **AND** (autologous OR platelet or plasma OR PRP OR platelet rich plasma OR platelet
9 gel OR platelet derived growth factors OR platelet concentrate OR PRGF OR ACP
10 OR autologous conditioned plasma OR platelet lysate OR platelet rich fibrin OR
11 platelet rich membrane)

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13 **2.EMBASE and Scopus:**

14 #1 'rotator cuff'/exp OR 'rotator cuff'

15 #2 'subacromial'/exp OR impinge* OR supraspinat* OR infraspinat* OR subscapular*

16 OR 'teres minor'

17 #3 #1 OR #2

18 #4 'autologous' OR 'platelet' or 'plasma' OR 'PRP' OR 'platelet rich plasma' OR

19 'platelet gel' OR 'platelet derived growth factors' OR 'platelet concentrate' OR

20 'PRGF' OR 'ACP'

21 #5 arthroscop* OR arthroplas* OR acromioplas* OR 'adhesive capsulitis'/exp OR

22 'rat'/exp OR 'mice'/exp OR 'animal'/exp)

23 #6 #3 AND #4 NOT #5

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26 *Data synthesis and analysis*

27 Pooled SD_{intervention} = the square root of $\{[(\text{participant numbers}_{\text{baseline}} - 1) * (\text{SD}_{\text{baseline}})^2$
28 $+ (\text{participant numbers}_{\text{post-intervention}} - 1) * (\text{SD}_{\text{post-intervention}})^2] / [(\text{participant numbers}_{\text{baseline}} - 1) + (\text{participant numbers}_{\text{post-intervention}} - 1)]\}$.

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31 Pooled SD_{between-interventions} = the square root of $\{[(\text{participant numbers}_{\text{First intervention}} - 1) * (\text{pooled SD}_{\text{First intervention}})^2 + (\text{participant numbers}_{\text{Second intervention}} - 1) * (\text{pooled SD}_{\text{Second intervention}})^2] / [(\text{participant numbers}_{\text{First intervention}} - 1) + (\text{participant numbers}_{\text{Second intervention}} - 1)]\}$.

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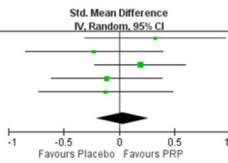
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A. Pain reduction 3 – 6 weeks

Study or Subgroup	Weight	Std. Mean Difference		Year
		IV, Random, 95% CI	Year	
Rha 2013	14.1%	0.32	[-0.31, 0.96]	2013
Kesikibunun 2013	14.5%	-0.23	[-0.85, 0.40]	2013
Ihanli 2015	33.5%	0.19	[-0.22, 0.60]	2015
Nejati 2017	22.6%	-0.11	[-0.61, 0.39]	2017
Cai 2018	15.3%	-0.12	[-0.73, 0.48]	2018
Total (95% CI)	100.0%	0.03	[-0.20, 0.27]	

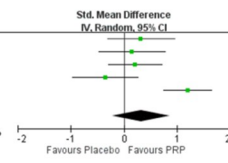
Heterogeneity: Tau² = 0.00; Chi² = 2.63, df = 4 (P = 0.62); I² = 0%
Test for overall effect: Z = 0.27 (P = 0.79)



B. Functional improvement 3 – 6 weeks

Study or Subgroup	Weight	Std. Mean Difference		Year
		IV, Random, 95% CI	Year	
Rha 2013	18.9%	0.32	[-0.21, 0.95]	2013
Kesikibunun 2013	19.1%	0.15	[-0.47, 0.77]	2013
Ihanli 2015	20.9%	0.21	[-0.29, 0.71]	2015
Nejati 2017	19.3%	-0.35	[-0.97, 0.26]	2017
Cai 2018	21.7%	1.20	[0.75, 1.64]	2018
Total (95% CI)	100.0%	0.33	[-0.22, 0.87]	

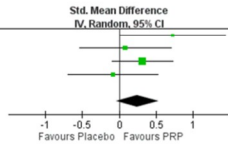
Heterogeneity: Tau² = 0.30; Chi² = 19.37, df = 4 (P = 0.0007); I² = 79%
Test for overall effect: Z = 1.17 (P = 0.24)



12 weeks

Study or Subgroup	Weight	Std. Mean Difference		Year
		IV, Random, 95% CI	Year	
Rha 2013	15.4%	0.72	[0.01, 1.44]	2013
Kesikibunun 2013	20.3%	0.08	[-0.54, 0.70]	2013
Nejati 2017	43.0%	0.32	[-0.10, 0.73]	2017
Cai 2018	21.2%	-0.08	[-0.69, 0.52]	2018
Total (95% CI)	100.0%	0.25	[-0.04, 0.53]	

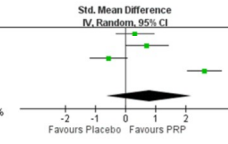
Heterogeneity: Tau² = 0.01; Chi² = 3.22, df = 3 (P = 0.36); I² = 7%
Test for overall effect: Z = 1.68 (P = 0.09)



12 weeks

Study or Subgroup	Weight	Std. Mean Difference		Year
		IV, Random, 95% CI	Year	
Kesikibunun 2013	25.0%	0.33	[-0.29, 0.96]	2013
Rha 2013	24.6%	0.72	[0.01, 1.44]	2013
Nejati 2017	25.1%	-0.55	[-1.17, 0.07]	2017
Cai 2018	25.3%	2.64	[2.07, 3.20]	2018
Total (95% CI)	100.0%	0.79	[-0.62, 2.20]	

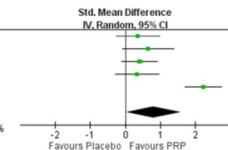
Heterogeneity: Tau² = 1.98; Chi² = 60.91, df = 3 (P < 0.00001); I² = 95%
Test for overall effect: Z = 1.09 (P = 0.27)



Over 24 weeks

Study or Subgroup	Weight	Std. Mean Difference		Year
		IV, Random, 95% CI	Year	
Kesikibunun 2013	19.8%	0.36	[-0.26, 0.99]	2013
Rha 2013	18.9%	0.65	[-0.09, 1.39]	2013
Ihanli 2015	20.8%	0.41	[-0.09, 0.92]	2015
Nejati 2017	19.9%	0.34	[-0.27, 0.95]	2017
Cai 2018	20.6%	2.22	[1.70, 2.75]	2018
Total (95% CI)	100.0%	0.81	[0.03, 1.58]	

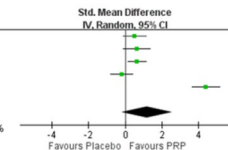
Heterogeneity: Tau² = 0.69; Chi² = 34.56, df = 4 (P < 0.00001); I² = 88%
Test for overall effect: Z = 2.03 (P = 0.04)



Over 24 weeks

Study or Subgroup	Weight	Std. Mean Difference		Year
		IV, Random, 95% CI	Year	
Kesikibunun 2013	20.1%	0.50	[-0.13, 1.13]	2013
Rha 2013	19.8%	0.64	[-0.09, 1.38]	2013
Ihanli 2015	20.4%	0.65	[0.14, 1.16]	2015
Nejati 2017	20.1%	-0.18	[-0.79, 0.42]	2017
Cai 2018	19.7%	4.43	[3.68, 5.21]	2018
Total (95% CI)	100.0%	1.20	[-0.20, 2.59]	

Heterogeneity: Tau² = 2.43; Chi² = 95.58, df = 3 (P < 0.00001); I² = 96%
Test for overall effect: Z = 1.68 (P = 0.09)



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51 Supplemental Fig S1. Forest plots of meta-analysis: comparison between
 52 PRP injection and placebo in pain reduction (**left**) and functional improvement
 53 (**right**) at short term (A, 3–6 weeks), medium term (B, 12 weeks) and long
 54 term (C, over 24 weeks). Abbreviation: PRP, plate-rich plasma.

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