Octubre, 2018

RECOMENDACIÓN T.5

INFORME DE BÚSQUEDA Y SÍNTESIS DE EVIDENCIA DE EFECTOS DESEABLES E INDESEABLES

Guía de Práctica Clínica de Tratamiento Médico en Personas de 55 años y más con Artrosis de Cadera y/o Rodilla, Leve o Moderada - 2018

A. PREGUNTA CLÍNICA

En personas mayores de 55 años con diagnóstico clínico de artrosis de rodilla, leve o moderada ¿Se debe realizar ejercicio físico monitorizado y programado asociado a tratamiento farmacológico habitual en comparación a realizar sólo tratamiento farmacológico habitual?

Análisis y definición de los componentes de la pregunta en formato PICO

Población: Personas mayores de 55 años con diagnóstico clínico de artrosis de rodilla leve o moderada.

Intervención: Ejercicio físico monitorizado y programado asociado a tratamiento farmacológico habitual.

Comparación: Sólo tratamiento farmacológico habitual.

Desenlace (outcome): Dolor, funcionalidad.

B. BÚSQUEDA DE EVIDENCIA

Se realizó una búsqueda general de revisiones sistemáticas asociadas al tema de “Osteoarthritis”. Las bases de datos utilizadas fueron: Cochrane database of systematic reviews (CDSR); Database of Abstracts of Reviews of Effectiveness (DARE); HTA Database; PubMed; LILACS; CINAHL; PsyclNFO; EMBASE; EPPI-Centre Evidence Library; 3ie Systematic Reviews and Policy Briefs Campbell Library; Clinical Evidence; SUPPORT Summaries; WHO institutional Repository for information Sharing; NICE public health guidelines and systematic reviews; ACP Journal Club; Evidencias en Pediatría; y The JBI Database of Systematic Reviews and implementation Reports. No se aplicaron restricciones en base al idioma o estado de publicación. Dos revisores de manera independiente realizaron la selección de los títulos y los resúmenes, la evaluación del texto completo y la extracción de datos. Un investigador experimentado resolvió cualquier discrepancia entre los distintos revisores. En caso de considerarse necesario, se integraron estudios primarios.

Seleccionadas las revisiones sistemáticas o estudios primarios asociadas a la temática, se clasificaron en función de las potenciales preguntas a las que daban respuesta. Al momento de definir la pregunta la evidencia ya se encontraba previamente clasificada según intervenciones comparadas. Los resultados se encuentran alojados en la plataforma Living Overview of the Evidence (L·OVE), sistema que permite la actualización periódica de la evidencia.

C. SÍNTESIS DE EVIDENCIA

Resumen de la evidencia identificada

Se identificaron 24 revisiones sistemáticas que incluyen más de 200 estudios primarios. Debido a la variabilidad en las alternativas de ejercicio (frecuencia, supervisión y lugar) y articulaciones (cadera y rodilla principalmente), no fue posible realizar una matriz de evidencia, debido a la escasa intersección entre las revisiones identificadas. Considerando la completitud, la calidad y el apego a definiciones más habituales de ejercicio, se seleccionaron dos revisiones sistemáticas Cochrane [6, 14] (una para artrosis de cadera [14] y una para artrosis de rodilla [6]), que a nuestro juicio constituyen la evidencia más informativa para la pregunta solicitada. Debido a esto, se decidió dividir la pregunta, realizando una tabla resumen de resultados para cada pregunta. En este informe, se presenta la información relativa a artrosis de rodilla.

Tabla 1: Resumen de la evidencia seleccionada

Revisión Sistemática	24 [1-24]
Estudios primarios	Sobre 200 estudios primarios* (54 incluidos [25-78] en la revisión Cochrane sintetizada [6])

*Se decidió no referenciar todos los estudios, sino exclusivamente los incluidos por la revisión seleccionada. Para mayor detalle, revisar plataforma LOVE.

Estimador del efecto

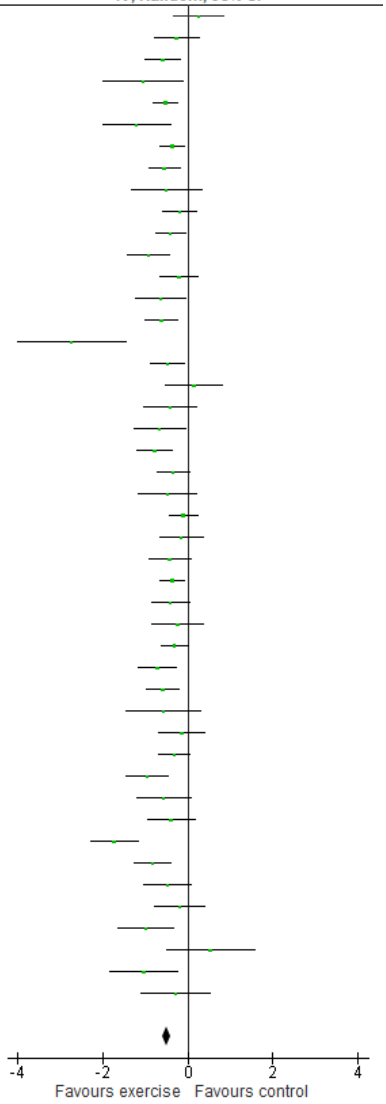
Para la pregunta de artrosis de rodilla, se seleccionó una revisión sistemática [14] por las razones descritas más arriba, la cuales entrega toda la información necesaria para construir la tabla de resumen de resultados.

Metanálisis

Dolor inmediatamente después del tratamiento

Study or Subgroup	Exercise Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Year
Minor 1989	-0.6	1.9	26	-1.1	1.9	20	1.8%	0.26 [-0.33, 0.84]	1989
Minor 1989	-0.76	1.7	49	-0.31	1.6	19	2.1%	-0.27 [-0.80, 0.27]	1989
Kovar 1992	-1.38	1.99	47	-0.1	2.31	45	2.7%	-0.59 [-1.01, -0.17]	1992
Schilke 1996	-6.1	4.9	10	0.4	6.7	10	0.9%	-1.06 [-2.01, -0.11]	1996
Ettinger 1997a/b	2.14	0.6	144	2.46	0.61	75	3.6%	-0.53 [-0.81, -0.24]	1997
Bautch 1997	-1.4	2.32	15	1.03	1.55	15	1.2%	-1.20 [-1.98, -0.41]	1997
Ettinger 1997a/b	2.21	0.72	146	2.46	0.61	75	3.6%	-0.36 [-0.64, -0.08]	1997
van Baar 1998	-27.4	28.7	54	-11.7	28.5	59	2.9%	-0.55 [-0.92, -0.17]	1998
Rogind 1998	-3	3.9	11	-0.1	6.7	12	1.1%	-0.50 [-1.34, 0.33]	1998
Maurer 1999	-43.54	80.3	49	-28.49	80.3	49	2.8%	-0.19 [-0.58, 0.21]	1999
Peloquin 1999	-1.44	2	59	-0.59	2.2	65	3.1%	-0.40 [-0.76, -0.04]	1999
Deyle 2000	-129.63	91	33	-33.83	111.5	36	2.2%	-0.93 [-1.43, -0.43]	2000
Hopman-Rock 2000	-0.7	24.1	45	4	21.2	37	2.6%	-0.20 [-0.64, 0.23]	2000
Baker 2001	-79	88	22	-20	93	22	1.8%	-0.64 [-1.25, -0.03]	2001
Fransen 2001	-10.6	19.5	83	1.5	19.4	43	2.9%	-0.62 [-0.99, -0.24]	2001
Gur 2002	-20.9	8.3	17	0.7	4.6	6	0.5%	-2.74 [-4.02, -1.47]	2002
Topp 2002	-1.53	3.2	67	0.02	3.2	35	2.7%	-0.48 [-0.90, -0.07]	2002
Talbot 2003	1.35	0.93	17	1.2	0.95	17	1.5%	0.16 [-0.52, 0.83]	2003
Foley 2003	-1.19	2.94	21	-0.05	2.55	20	1.7%	-0.41 [-1.02, 0.21]	2003
Song 2003	-2.45	3.9	22	0.61	5.1	21	1.7%	-0.66 [-1.28, -0.05]	2003
Huang 2003	-1.6	1.5	99	-0.4	1.6	33	2.8%	-0.78 [-1.19, -0.38]	2003
Hughes 2004	4.9	3.4	68	6.2	4.3	43	2.9%	-0.34 [-0.73, 0.04]	2004
Keefe 2004	-0.7	1.69	16	0.03	1.27	18	1.5%	-0.48 [-1.17, 0.20]	2004
Bennell 2005	-2.2	1.7	73	-2	2.1	67	3.3%	-0.10 [-0.44, 0.23]	2005
Thorstensson 2005	-1.8	14	30	0.3	15	31	2.2%	-0.14 [-0.65, 0.36]	2005
Huang 2005	-1.2	1.6	30	-0.5	1.7	32	2.2%	-0.42 [-0.92, 0.09]	2005
Hay 2006	-1.56	3.4	93	-0.41	2.8	89	3.5%	-0.37 [-0.66, -0.07]	2006
Fransen 2007	-1.67	3.28	41	-0.5	2.37	36	2.5%	-0.40 [-0.85, 0.05]	2007
Brismée 2007	15.39	5.7	22	16.64	4.7	19	1.7%	-0.23 [-0.85, 0.38]	2007
Yip 2007	37.33	21.1	79	44.41	23.2	74	3.3%	-0.32 [-0.64, 0.00]	2007
Jan 2008	4.8	3.1	68	7.1	3.4	30	2.5%	-0.71 [-1.16, -0.27]	2008
Lim 2008	-9	12	53	-1.75	12.8	54	2.9%	-0.58 [-0.97, -0.19]	2008
An 2008	71.1	110.1	11	138.2	112.6	10	1.0%	-0.58 [-1.46, 0.30]	2008
Lund 2008	38	12.5	25	39.7	12	27	2.0%	-0.14 [-0.68, 0.41]	2008
Doi 2008	22.55	20.68	61	29.59	23.44	56	3.0%	-0.32 [-0.68, 0.05]	2008
Lin 2009	4.2	3	36	7.3	3.4	36	2.3%	-0.96 [-1.45, -0.47]	2009
Lee 2009	-2.2	4.1	29	-0.2	1.8	15	1.7%	-0.56 [-1.20, 0.07]	2009
Bezalel 2010	7	7.5	25	10	7.5	25	2.0%	-0.39 [-0.95, 0.17]	2010
Salli 2010	3.35	1.8	47	6.5	1.8	24	1.9%	-1.73 [-2.30, -1.16]	2010
Bennell 2010	-2.6	2.6	45	-0.4	2.7	44	2.6%	-0.82 [-1.26, -0.39]	2010
Wang 2011	24	15	26	32	18	26	2.0%	-0.48 [-1.03, 0.08]	2011
Foroughi 2011	3.8	2.7	20	4.4	3.7	25	1.8%	-0.18 [-0.77, 0.41]	2011
Chang 2012	-2.3	1.3	24	-0.9	1.5	17	1.6%	-0.99 [-1.65, -0.33]	2012
Bruce-Brand 2012	10.78	4.31	10	8.33	4.36	6	0.8%	0.54 [-0.50, 1.57]	2012
Salacinski 2012	18.6	13.4	13	34.3	15.9	15	1.2%	-1.03 [-1.83, -0.23]	2012
Simao 2012	-62.5	296	11	0	35	12	1.1%	-0.29 [-1.12, 0.53]	2012
Total (95% CI)			**1992**			**1545**	**100.0%**	**-0.49 [-0.59, -0.39]**	

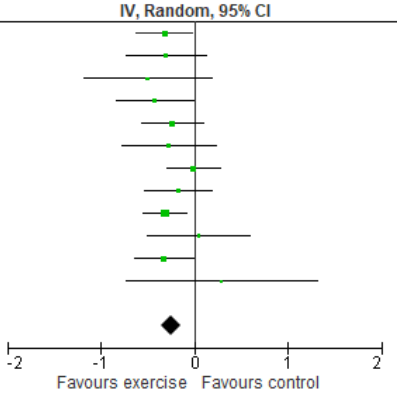
Heterogeneity: Tau² = 0.05; Chi² = 84.97, df = 45 (P = 0.0003); I² = 47%
Test for overall effect: Z = 9.64 (P < 0.00001)



Dolor a mediano plazo (2-6 meses)

Study or Subgroup	Exercise Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Year
O'Reilly 1999	-1.45	3.5	108	-0.42	2.8	72	12.2%	-0.32 [-0.62, -0.02]	1999
Quilty 2003	42.8	25.1	43	50.5	25.6	44	6.1%	-0.30 [-0.72, 0.12]	2003
Talbot 2003	1.07	0.8	17	1.57	1.12	17	2.3%	-0.50 [-1.19, 0.18]	2003
Hughes 2004	5.1	3.7	60	6.7	3.9	36	6.3%	-0.42 [-0.84, -0.00]	2004
Bennell 2005	-2.1	1.7	73	-1.6	2.5	67	9.9%	-0.23 [-0.57, 0.10]	2005
Thorstensson 2005	-3.1	14.3	30	1.1	15.6	31	4.3%	-0.28 [-0.78, 0.23]	2005
Hay 2006	-1.19	3.9	93	-1.05	34	89	13.0%	-0.01 [-0.30, 0.28]	2006
Yip 2007	38.58	22	67	42.5	23.7	53	8.4%	-0.17 [-0.53, 0.19]	2007
Hurley 2007	5.7	3.1	229	6.7	3.3	113	21.4%	-0.32 [-0.54, -0.09]	2007
Lund 2008	38	13	25	37.4	12.5	27	3.7%	0.05 [-0.50, 0.59]	2008
Jenkinson 2009	5.7	3.96	82	7.04	4.21	76	11.1%	-0.33 [-0.64, -0.01]	2009
Bruce-Brand 2012	9.6	4.14	10	8.33	4.08	6	1.1%	0.29 [-0.73, 1.31]	2012
Total (95% CI)			**837**			**631**	**100.0%**	**-0.24 [-0.35, -0.14]**	

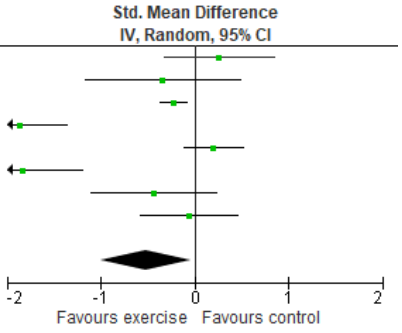
Heterogeneity: Tau² = 0.00; Chi² = 7.08, df = 11 (P = 0.79); I² = 0%
Test for overall effect: Z = 4.58 (P < 0.00001)



Dolor a largo plazo (más de 6 meses)

Study or Subgroup	Exercise Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Year
Minor 1989	-0.6	1.9	26	-1.1	1.9	20	12.2%	0.26 [-0.33, 0.84]	1989
Rogind 1998	3	2.2	11	4	3.3	12	10.4%	-0.34 [-1.17, 0.48]	1998
Thomas 2002	-1.27	3.6	467	-0.46	3.6	316	14.6%	-0.22 [-0.37, -0.08]	2002
Huang 2003	4.8	1.5	87	7.6	1.5	27	12.8%	-1.85 [-2.35, -1.36]	2003
Messier 2004	-0.4	4.2	80	-1.23	3.97	78	14.0%	0.20 [-0.11, 0.51]	2004
Huang 2005	3.9	1.4	26	6.6	1.5	28	11.8%	-1.83 [-2.47, -1.19]	2005
Mikesky 2006	-1.6	5.51	15	0.36	3.44	22	11.6%	-0.44 [-1.10, 0.23]	2006
Abbott 2013	14.9	11.2	29	15.6	11.4	28	12.7%	-0.06 [-0.58, 0.46]	2013
Total (95% CI)			**741**			**531**	**100.0%**	**-0.52 [-1.01, -0.03]**	

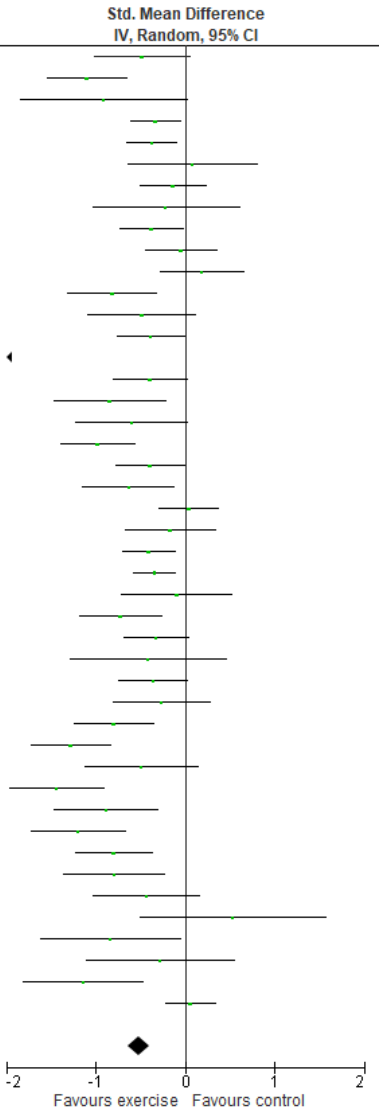
Heterogeneity: Tau² = 0.42; Chi² = 74.84, df = 7 (P < 0.00001); I² = 91%
Test for overall effect: Z = 2.10 (P = 0.04)



Funcionalidad inmediatamente después del tratamiento

Study or Subgroup	Exercise Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Year
Minor 1989	-0.89	2.5	49	0.33	2.5	19	2.2%	-0.48 [-1.02, 0.05]	1989
Kovar 1992	-2.4	2.27	47	0.24	2.49	45	2.5%	-1.10 [-1.54, -0.66]	1992
Schilke 1996	-3.66	3.3	10	-0.42	3.5	10	1.2%	-0.91 [-1.84, 0.02]	1996
Ettinger 1997a/b	1.74	0.48	144	1.9	0.48	75	3.1%	-0.33 [-0.61, -0.05]	1997
Ettinger 1997a/b	1.72	0.48	144	1.9	0.48	75	3.1%	-0.37 [-0.66, -0.09]	1997
Bautch 1997	-2.82	7.78	15	-3.49	8.17	15	1.6%	0.08 [-0.63, 0.80]	1997
van Baar 1998	-1.3	5.7	54	-0.5	5.6	59	2.7%	-0.14 [-0.51, 0.23]	1998
Rogind 1998	-3	3.3	11	-2	5.3	12	1.4%	-0.22 [-1.04, 0.60]	1998
Peloquin 1999	-1.5	2.4	59	-0.54	2.6	65	2.8%	-0.38 [-0.74, -0.02]	1999
Maurer 1999	-106.9	390.1	49	-88.3	390.1	49	2.6%	-0.05 [-0.44, 0.35]	1999
Hopman-Rock 2000	-0.8	4.6	37	-1.7	5.2	34	2.4%	0.18 [-0.28, 0.65]	2000
Deyle 2000	-402.51	339.56	33	-98.17	393.9	36	2.3%	-0.82 [-1.31, -0.32]	2000
Baker 2001	-272	295	22	-119	323	22	1.9%	-0.49 [-1.09, 0.11]	2001
Fransen 2001	-7.7	19.9	83	0.1	20.5	43	2.7%	-0.39 [-0.76, -0.01]	2001
Gur 2002	-13.8	4.1	17	1	2.5	6	0.6%	-3.77 [-5.29, -2.26]	2002
Topp 2002	-4.16	10.9	67	0.17	10.9	35	2.6%	-0.39 [-0.81, 0.02]	2002
Song 2003	-11.09	12	22	-1.33	10.6	21	1.9%	-0.84 [-1.47, -0.22]	2003
Foley 2003	-2.81	7.89	21	2.1	8.1	20	1.9%	-0.60 [-1.23, 0.03]	2003
Huang 2003	-2	1.6	99	-0.4	1.7	33	2.6%	-0.98 [-1.39, -0.57]	2003
Hughes 2004	17.3	12.6	68	22.3	12.8	43	2.7%	-0.39 [-0.78, -0.01]	2004
Huang 2005	-1.5	1.4	30	-0.5	1.7	32	2.2%	-0.63 [-1.14, -0.12]	2005
Bennell 2005	-7.8	8.7	73	-8.2	10	67	2.9%	0.04 [-0.29, 0.37]	2005
Thorstensson 2005	-2	12	30	0.6	18	31	2.3%	-0.17 [-0.67, 0.34]	2005
Hay 2006	-4.79	10.8	95	-0.8	8.5	90	3.0%	-0.41 [-0.70, -0.12]	2006
Hurley 2007	20	18.5	229	25.9	13.6	113	3.3%	-0.35 [-0.57, -0.12]	2007
Brismée 2007	39.5	12.96	22	40.69	11.89	19	1.9%	-0.09 [-0.71, 0.52]	2007
Fransen 2007	-5.04	10.25	41	2.07	9.06	36	2.4%	-0.72 [-1.19, -0.26]	2007
Doi 2008	13.69	13.47	61	18.59	16.38	56	2.8%	-0.33 [-0.69, 0.04]	2008
An 2008	347.5	383.8	11	511.8	381.6	10	1.3%	-0.41 [-1.28, 0.46]	2008
Lim 2008	-6.5	10.6	53	-2.6	10.9	54	2.7%	-0.36 [-0.74, 0.02]	2008
Lund 2008	35.9	11.5	25	38.9	11	27	2.1%	-0.26 [-0.81, 0.28]	2008
Jan 2008	14.8	8.9	68	22.5	10.9	30	2.5%	-0.80 [-1.24, -0.36]	2008
Jan 2009	11.2	10.1	71	25	11.8	35	2.5%	-1.28 [-1.72, -0.84]	2009
Lee 2009	-9.4	14.4	29	-2.7	10.8	15	1.9%	-0.49 [-1.13, 0.14]	2009
Lin 2009	10.1	8.3	36	24.9	11.8	36	2.2%	-1.44 [-1.96, -0.91]	2009
Bezalel 2010	25	10	25	34	10	25	2.0%	-0.89 [-1.47, -0.30]	2010
Salli 2010	20.65	8.9	47	32.6	11.6	24	2.2%	-1.20 [-1.73, -0.66]	2010
Bennell 2010	-8.07	7.7	45	-1.9	7.6	44	2.5%	-0.80 [-1.23, -0.37]	2010
Wang 2011	18	14	26	31	18	26	2.1%	-0.79 [-1.36, -0.23]	2011
Foroughi 2011	13.3	9.4	20	18.1	12	25	2.0%	-0.43 [-1.03, 0.16]	2011
Bruce-Brand 2012	33.91	12.91	10	26.11	15.33	6	1.0%	0.53 [-0.50, 1.57]	2012
Salacinski 2012	15.8	13.9	13	28.9	16.2	15	1.5%	-0.84 [-1.62, -0.06]	2012
Simao 2012	-100	740	11	75	463	12	1.4%	-0.28 [-1.10, 0.55]	2012
Chang 2012	-10.7	5.9	24	-4.5	4.4	17	1.7%	-1.14 [-1.81, -0.47]	2012
Kao 2012	3.2	34	114	1.5	20.3	91	3.1%	0.06 [-0.22, 0.33]	2012
Total (95% CI)			**2260**			**1653**	**100.0%**	**-0.52 [-0.64, -0.39]**	

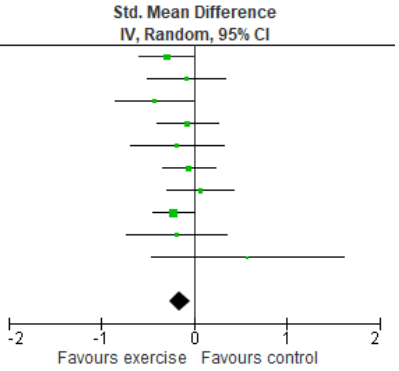
Heterogeneity: Tau² = 0.11; Chi² = 135.50, df = 44 (P < 0.00001); I² = 68%
Test for overall effect: Z = 8.23 (P < 0.00001)



Funcionalidad a mediano plazo (2-6 meses)

Study or Subgroup	Exercise Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Year
O'Reilly 1999	-3.55	12.5	108	-0.01	11.5	72	14.1%	-0.29 [-0.59, 0.01]	1999
Quilty 2003	26.5	13.2	43	27.5	10.7	44	7.1%	-0.08 [-0.50, 0.34]	2003
Hughes 2004	18.3	12.6	60	24.1	14.6	36	7.2%	-0.43 [-0.85, -0.01]	2004
Bennell 2005	-7.5	10.9	73	-6.7	10.9	67	11.5%	-0.07 [-0.40, 0.26]	2005
Thorstensson 2005	-0.9	13.1	30	1.9	16.5	31	5.0%	-0.19 [-0.69, 0.32]	2005
Hay 2006	-3.34	12.2	95	-2.74	10.5	90	15.2%	-0.05 [-0.34, 0.24]	2006
Yip 2007	4.7	3.7	67	4.44	3.3	53	9.7%	0.07 [-0.29, 0.43]	2007
Hurley 2007	21.65	16.6	229	25	11.39	113	24.7%	-0.22 [-0.45, 0.00]	2007
Lund 2008	36.1	13.5	25	38.6	13	27	4.2%	-0.19 [-0.73, 0.36]	2008
Bruce-Brand 2012	31.5	14.4	10	21.67	18.9	6	1.2%	0.58 [-0.46, 1.61]	2012
Total (95% CI)			**740**			**539**	**100.0%**	**-0.15 [-0.26, -0.04]**	

Heterogeneity: Tau² = 0.00; Chi² = 7.09, df = 9 (P = 0.63); I² = 0%
Test for overall effect: Z = 2.66 (P = 0.008)



Funcionalidad a largo plazo (más de 6 meses)

Study or Subgroup	Exercise Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI	Year
Minor 1989	-1.1	2	26	-0.7	2.5	20	12.3%	-0.18 [-0.76, 0.41]	1989
Rogind 1998	10	2.6	11	11.5	12	6	9.1%	-0.20 [-1.19, 0.80]	1998
Thomas 2002	-2.59	10.5	467	-0.02	10.5	316	14.9%	-0.24 [-0.39, -0.10]	2002
Huang 2003	3	1.4	87	6.1	1.3	27	12.8%	-2.24 [-2.76, -1.71]	2003
Messier 2004	-3.07	11.6	80	-3.4	11.5	78	14.2%	0.03 [-0.28, 0.34]	2004
Huang 2005	5.8	1.8	26	8.1	1.5	28	12.2%	-1.37 [-1.97, -0.78]	2005
Mikesky 2006	-0.2	11.58	15	1.93	9.11	22	11.7%	-0.20 [-0.86, 0.45]	2006
Abbott 2013	50	34.2	29	56.8	40	28	12.8%	-0.18 [-0.70, 0.34]	2013
Total (95% CI)			**741**			**525**	**100.0%**	**-0.57 [-1.05, -0.10]**	

Heterogeneity: Tau² = 0.39; Chi² = 69.88, df = 7 (P < 0.00001); I² = 90%
Test for overall effect: Z = 2.35 (P = 0.02)

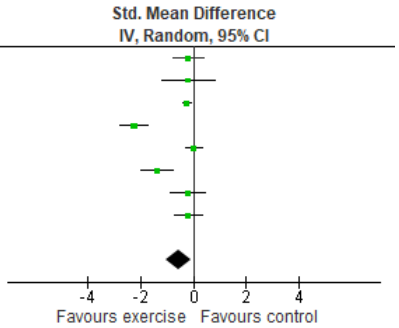


Tabla de Resumen de Resultados (Summary of Findings)

EJERCICIO PARA ARTROSIS DE CADERA.				
Pacientes	Personas mayores de 55 años con diagnóstico clínico de artrosis de rodilla leve o moderada.			
Intervención	Ejercicio físico monitorizado y programado asociado a tratamiento farmacológico habitual.			
Comparación	Sólo tratamiento farmacológico habitual.			
Desenlaces	**Efecto relativo (IC 95%) -- Pacientes / estudios**	**Efecto**	**Certeza de la evidencia (GRADE)**	**Mensajes clave en términos sencillos**
Dolor inmediatamente después del tratamiento	-- 3537 pacientes / 44 ensayos en una revisión sistemática [6]	DME: -0,49* (-0,59 a -0,39)	⨁◯◯◯[1,2,3] Muy baja	El ejercicio monitorizado y programado podría tener poco efecto en el dolor inmediatamente después del tratamiento. Sin embargo, existe considerable incertidumbre dado que la certeza de la evidencia es muy baja.
Dolor a mediano plazo (2-6 meses)	-- 1468 pacientes / 12 ensayos en una revisión sistemática [6]	DME: -0,24* (-0,35 a -0,14)	⨁⨁◯◯[1,2] Baja	El ejercicio monitorizado y programado podría tener poco efecto en el dolor a mediano plazo, pero la certeza de la evidencia es baja.
Dolor a largo plazo (más de 6 meses)	-- 1272 pacientes / 8 ensayos en una revisión sistemática [6]	DME: -0,52* (-1,01 menos a 0,03 menos)	⨁◯◯◯[1,2,3] Muy baja	El ejercicio monitorizado y programado podría tener poco efecto en el dolor a largo plazo. Sin embargo, existe considerable incertidumbre dado que la certeza de la evidencia es muy baja.
Funcionalidad inmediatamente después del tratamiento	-- 3913 pacientes / 44 ensayos en una revisión sistemática [6]	DME: -0,52* (-0,64 a -0,39)	⨁◯◯◯[1,2,3] Muy baja	El ejercicio monitorizado y programado podría tener poco efecto en la funcionalidad inmediatamente después del tratamiento. Sin embargo, existe considerable incertidumbre dado que la certeza de la evidencia es muy baja.
Funcionalidad a mediano plazo (2-6 meses)	-- 1279 pacientes / 10 ensayos en una revisión sistemática [6]	DME: -0,15 (-0,26 a -0,04)	⨁⨁◯◯[1,2] Baja	El ejercicio monitorizado y programado podría tener poco efecto en la funcionalidad a mediano plazo, pero la certeza de la evidencia es baja.
Funcionalidad a largo plazo (más de 6 meses)	-- 1266 pacientes / 8 ensayos en una revisión sistemática [6]	DME: -0,57* (-1,05 a -0,1)	⨁◯◯◯[1,2,3] Muy baja	El ejercicio monitorizado y programado podría tener poco efecto en la funcionalidad a largo plazo. Sin embargo, existe considerable incertidumbre dado que la certeza de la evidencia es muy baja.

IC 95%: Intervalo de confianza del 95% // DME: Diferencia de medias estandarizada // GRADE: Grados de evidencia Grading of Recommendations Assessment, Development and Evaluation.

*La diferencia de medias estandarizada se utiliza cuando el desenlace ha sido medido en diferentes escalas y es difícil de interpretar clínicamente. Una regla general es que valores menores a 0,2 son de poca relevancia clínica, valores de 0,5 de relevancia moderada y 0,8 relevancia clínica importante.

[1] Se disminuyó un nivel de certeza de evidencia por riesgo de sesgo, ya que ninguno de los ensayos fue ciego ni estaba claro si los evaluadores de desenlace fueron ciegos.

[2] Se disminuyó un nivel de certeza de evidencia por imprecisión, ya que cada extremo del intervalo de confianza conlleva una decisión diferente.

[3] Se disminuyó un nivel de certeza de evidencia por inconsistencia, ya que diferentes ensayos presentaban diferentes conclusiones.

Fecha de elaboración de la tabla: Octubre, 2018.

Referencias

1. Brand E, Nyland J, Henzman C, McGinnis M. Arthritis Self-Efficacy Scale Scores in Knee Osteoarthritis: A Systematic Review and Meta-analysis Comparing Arthritis Self-Management Education With or Without Exercise. The Journal of orthopaedic and sports physical therapy. 2013;43(12):895–910.
2. Briani RV, Ferreira AS, Pazzinatto MF, Pappas E, De Oliveira Silva D, Azevedo FM. What interventions can improve quality of life or psychosocial factors of individuals with knee osteoarthritis? A systematic review with meta-analysis of primary outcomes from randomised controlled trials. British journal of sports medicine. 2018;52(16):1031–8.
3. Brosseau L, Pelland L, Wells G, Macleay L, Lamothe C, Michaud G, et al. Efficacy of Aerobic Exercises For Osteoarthritis (part II): A Meta-analysis. Physical Therapy Reviews. 2004;9(3):125–45.
4. Chiung-ju Liu, Nancy K Latham. Progressive resistance strength training for improving physical function in older adults. Cochrane Database of Systematic Reviews. 2009;(3):CD002759.
5. Ferreira GE, Robinson CC, Wiebusch M, Viero CC, da Rosa LH, Silva MF. The effect of exercise therapy on knee adduction moment in individuals with knee osteoarthritis: A systematic review. Clinical biomechanics (Bristol, Avon). 2015;30(6):521–7.
6. Fransen M, McConnell S, Harmer A, Van der Esch M, Simic M, Bennell K. Exercise for osteoarthritis of the knee. Cochrane Database of Systematic Reviews. 2015;1(1):CD004376
7. Fransen M, McConnell S, Bell M. Therapeutic exercise for people with osteoarthritis of the hip or knee. A systematic review. The Journal of rheumatology. 2002;29(8):1737–45.
8. Fransen M, McConnell S, Harmer AR, Van der Esch M, Simic M, Bennell KL. Exercise for osteoarthritis of the knee: a Cochrane systematic review. British journal of sports medicine. 2015;49(24):1554–7.
9. Fransen M, McConnell S, Hernandez-Molina G, Reichenbach S. Does land-based exercise reduce pain and disability associated with hip osteoarthritis? A meta-analysis of randomized controlled trials. Osteoarthritis and cartilage / OARS, Osteoarthritis Research Society. 2010;18(5):613–20.
10. Fransen M, McConnell S. Land-based exercise for osteoarthritis of the knee: a metaanalysis of randomized controlled trials. The Journal of rheumatology. 2009;36(6):1109–17.
11. Hall M, Castelein B, Wittoek R, Calders P, Van Ginckel A. Diet-induced weight loss alone or combined with exercise in overweight or obese people with knee osteoarthritis: A systematic review and meta-analysis. Seminars in arthritis and rheumatism [Internet]. 2018; Available from: http://www.epistemonikos.org/documents/7a045338a65cbc48ced39d39fa19c8fb26b2b262
12. Hurley M, Dickson K, Hallett R, Grant R, Hauari H, Walsh N, et al. Exercise interventions and patient beliefs for people with hip, knee or hip and knee osteoarthritis: a mixed methods review. Cochrane Database of Systematic Reviews. 2018;4:CD010842.
13. Lange AK, Vanwanseele B, Fiatarone Singh MA. Strength training for treatment of osteoarthritis of the knee: a systematic review. Arthritis and rheumatism. 2008;59(10):1488–94.
14. Marlene Fransen, Sara McConnell, Gabriela Hernandez-Molina, Stephan Reichenbach. Exercise for osteoarthritis of the hip. Cochrane Database of Systematic Reviews. 2014;4(4):CD007912.
15. Newberry SJ, FitzGerald J, SooHoo NF, Booth M, Marks J, Motala A, et al. Treatment of Osteoarthritis of the Knee: An Update Review [Internet]. 2017. (AHRQ Comparative Effectiveness Reviews). Available from: http://www.epistemonikos.org/documents/d9f659d8b7431a3a229b498362f4a248512bcebd
16. Pelland L, Brosseau L, Wells G, MacLeay L, Lambert J, Lamothe C, et al. Efficacy of strengthening exercises for osteoarthritis (Part I): A meta-analysis. Physical Therapy Reviews. 2004;9(2):77–108.
17. Pisters MF, Veenhof C, van Meeteren NL, Ostelo RW, de Bakker DH, Schellevis FG, et al. Long-Term effectiveness of exercise therapy in patients with osteoarthritis of the hip or knee: a systematic review. Arthritis & Rheumatism: Arthritis Care & Research. 2007;57(7):1245–53.
18. Regnaux JP, Lefevre-Colau MM, Trinquart L, Nguyen C, Boutron I, Brosseau L, et al. High-intensity versus low-intensity physical activity or exercise in people with hip or knee osteoarthritis. Cochrane Database of Systematic Reviews. 2015;10(10):CD010203.

19. Ricci N.A., Coimbra I.B. Exercise therapy as a treatment in osteoarthritis of the hip: A review of randomized clinical trials. Revista Brasileira de Reumatologia. 2006;46(4):273–80.
20. Toomey E, Currie-Murphy L, Matthews J, Hurley DA. The effectiveness of physiotherapist-delivered group education and exercise interventions to promote self-management for people with osteoarthritis and chronic low back pain: A rapid review Part I. Manual therapy. 2015;20(2):265–86.
21. Waller B, Ogonowska-Slodownik A, Vitor M, Lambeck J, Daly D, Kujala UM, et al. Effect of Therapeutic Aquatic Exercise on Symptoms and Function Associated With Lower Limb Osteoarthritis: Systematic Review With Meta-Analysis. Physical therapy. 2014;94(10):1383–95.
22. Walsh NE, Mitchell HL, Reeves BC, Hurley MV. Integrated exercise and self-management programmes in osteoarthritis of the hip and knee: a systematic review of effectiveness. Physical Therapy Reviews. 2006;11(4):289–97.
23. Wijnen A, Bouma SE, Seeber GH, van der Woude LHV, Bulstra SK, Lazovic D, et al. The therapeutic validity and effectiveness of physiotherapeutic exercise following total hip arthroplasty for osteoarthritis: A systematic review. PloS one. 2018;13(3):e0194517.
24. Østerås N, Kjeken I, Smedslund G, Moe RH, Slatkowsky-Christensen B, Uhlig T, et al. Exercise for hand osteoarthritis. Cochrane Database of Systematic Reviews. 2017;1:CD010388.
25. Abbott JH, Robertson MC, Chapple C, Pinto D, Wright AA, Leon de la Barra S, Baxter GD, Theis JC, Campbell AJ, MOA Trial team. Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee: a randomized controlled trial. 1: clinical effectiveness. Osteoarthritis and cartilage / OARS, Osteoarthritis Research Society. 2013;21(4):525-34.
26. An B, Dai K, Zhu Z, Wang Y, Hao Y, Tang T, Yan H. Baduanjin alleviates the symptoms of knee osteoarthritis. Journal of alternative and complementary medicine (New York, N.Y.). 2008;14(2):167-74.
27. Baker KR, Nelson ME, Felson DT, Layne JE, Sarno R, Roubenoff R. The efficacy of home based progressive strength training in older adults with knee osteoarthritis: a randomized controlled trial. The Journal of rheumatology. 2001;28(7):1655-65.
28. Bautch JC, Malone DG, Vailas AC. Effects of exercise on knee joints with osteoarthritis: a pilot study of biologic markers. Arthritis care and research : the official journal of the Arthritis Health Professions Association. 1997;10(1):48-55.
29. Bennell KL, Hinman RS, Metcalf BR, Buchbinder R, McConnell J, McColl G, Green S, Crossley KM. Efficacy of physiotherapy management of knee joint osteoarthritis: a randomised, double blind, placebo controlled trial. Annals of the rheumatic diseases. 2005;64(6):906-12.
30. Bennell KL, Hunt MA, Wrigley TV, Hunter DJ, McManus FJ, Hodges PW, Li L, Hinman RS. Hip strengthening reduces symptoms but not knee load in people with medial knee osteoarthritis and varus malalignment: a randomised controlled trial. Osteoarthritis and cartilage / OARS, Osteoarthritis Research Society. 2010;18(5):621-8.
31. Bezalel T, Carmeli E, Katz-Leurer M. The effect of a group education programme on pain and function through knowledge acquisition and home-based exercise among patients with knee osteoarthritis: a parallel randomised single-blind clinical trial. Physiotherapy. 2010;96(2):137-43.
32. Brismée JM, Paige RL, Chyu MC, Boatright JD, Hagar JM, McCaleb JA, Quintela MM, Feng D, Xu KT, Shen CL. Group and home-based tai chi in elderly subjects with knee osteoarthritis: a randomized controlled trial. Clinical rehabilitation. 2007;21(2):99-111.
33. Bruce-Brand RA, Walls RJ, Ong JC, Emerson BS, O'Byrne JM, Moyna NM. Effects of home-based resistance training and neuromuscular electrical stimulation in knee osteoarthritis: a randomized controlled trial. BMC musculoskeletal disorders. 2012;13:118.
34. Chang TF, Liou TH, Chen CH, Huang YC, Chang KH. Effects of elastic-band exercise on lower-extremity function among female patients with osteoarthritis of the knee. Disability and rehabilitation. 2012;34(20):1727-35.

35. Deyle GD, Henderson NE, Matekel RL, Ryder MG, Garber MB, Allison SC. Effectiveness of manual physical therapy and exercise in osteoarthritis of the knee. A randomized, controlled trial. Annals of internal medicine. 2000;132(3):173-81.
36. Doi T, Akai M, Fujino K, Iwaya T, Kurosawa H, Hayashi K, Marui E. Effect of home exercise of quadriceps on knee osteoarthritis compared with nonsteroidal antiinflammatory drugs: a randomized controlled trial. American journal of physical medicine & rehabilitation / Association of Academic Physiatrists. 2008;87(4):258-69.
37. Ettinger WH, Burns R, Messier SP, Applegate W, Rejeski WJ, Morgan T, Shumaker S, Berry MJ, O'Toole M, Monu J, Craven T. A randomized trial comparing aerobic exercise and resistance exercise with a health education program in older adults with knee osteoarthritis. The Fitness Arthritis and Seniors Trial (FAST). JAMA : the journal of the American Medical Association. 1997;277(1):25-31.
38. Foley A, Halbert J, Hewitt T, Crotty M. Does hydrotherapy improve strength and physical function in patients with osteoarthritis--a randomised controlled trial comparing a gym based and a hydrotherapy based strengthening programme. Annals of the rheumatic diseases. 2003;62(12):1162-7.
39. Foroughi N, Smith RM, Lange AK, Baker MK, Fiatarone Singh MA, Vanwanseele B. Lower limb muscle strengthening does not change frontal plane moments in women with knee osteoarthritis: A randomized controlled trial. Clinical biomechanics (Bristol, Avon). 2011;26(2):167-74.
40. Fransen M, Crosbie J, Edmonds J. Physical therapy is effective for patients with osteoarthritis of the knee: a randomized controlled clinical trial. The Journal of rheumatology. 2001;28(1):156-64.
41. Fransen M, Nairn L, Winstanley J, Lam P, Edmonds J. Physical activity for osteoarthritis management: a randomized controlled clinical trial evaluating hydrotherapy or Tai Chi classes. Arthritis and rheumatism. 2007;57(3):407-14.
42. Gür H, Cakin N, Akova B, Okay E, Küçükoğlu S. Concentric versus combined concentric-eccentric isokinetic training: effects on functional capacity and symptoms in patients with osteoarthrosis of the knee. Archives of physical medicine and rehabilitation. 2002;83(3):308-16.
43. Hay EM, Foster NE, Thomas E, Peat G, Phelan M, Yates HE, Blenkinsopp A, Sim J. Effectiveness of community physiotherapy and enhanced pharmacy review for knee pain in people aged over 55 presenting to primary care: pragmatic randomised trial. BMJ (Clinical research ed.). 2006;333(7576):995.
44. Hopman-Rock M, Westhoff MH. The effects of a health educational and exercise program for older adults with osteoarthritis for the hip or knee. The Journal of rheumatology. 2000;27(8):1947-54.
45. Huang MH, Lin YS, Yang RC, Lee CL. A comparison of various therapeutic exercises on the functional status of patients with knee osteoarthritis. Seminars in arthritis and rheumatism. 2003;32(6):398-406.
46. Huang MH, Yang RC, Lee CL, Chen TW, Wang MC. Preliminary results of integrated therapy for patients with knee osteoarthritis. Arthritis and rheumatism. 2005;53(6):812-20.
47. Hughes SL, Seymour RB, Campbell R, Pollak N, Huber G, Sharma L. Impact of the fit and strong intervention on older adults with osteoarthritis. The Gerontologist. 2004;44(2):217-28.
48. Hurley MV, Walsh NE, Mitchell HL, Pimm TJ, Patel A, Williamson E, Jones RH, Dieppe PA, Reeves BC. Clinical effectiveness of a rehabilitation program integrating exercise, self-management, and active coping strategies for chronic knee pain: a cluster randomized trial. Arthritis and rheumatism. 2007;57(7):1211-9.
49. Jan MH, Lin CH, Lin YF, Lin JJ, Lin DH. Effects of weight-bearing versus nonweight-bearing exercise on function, walking speed, and position sense in participants with knee osteoarthritis: a randomized controlled trial. Archives of physical medicine and rehabilitation. 2009;90(6):897-904.
50. Jan MH, Lin JJ, Liau JJ, Lin YF, Lin DH. Investigation of clinical effects of high- and low-resistance training for patients with knee osteoarthritis: a randomized controlled trial. Physical therapy. 2008;88(4):427-36.

51. Jenkinson CM, Doherty M, Avery AJ, Read A, Taylor MA, Sach TH, Silcocks P, Muir KR. Effects of dietary intervention and quadriceps strengthening exercises on pain and function in overweight people with knee pain: randomised controlled trial. BMJ (Clinical research ed.). 2009;339:b3170.
52. Kao MJ, Wu MP, Tsai MW, Chang WW, Wu SF. The effectiveness of a self-management program on quality of life for knee osteoarthritis (OA) patients. Archives of gerontology and geriatrics. 2012;54(2):317-24.
53. Keefe FJ, Blumenthal J, Baucom D, Affleck G, Waugh R, Caldwell DS, Beaupre P, Kashikar-Zuck S, Wright K, Egert J, Lefebvre J. Effects of spouse-assisted coping skills training and exercise training in patients with osteoarthritic knee pain: a randomized controlled study. Pain. 2004;110(3):539-49.
54. Kovar PA, Allegrante JP, MacKenzie CR, Peterson MG, Gutin B, Charlson ME. Supervised fitness walking in patients with osteoarthritis of the knee. A randomized, controlled trial. Annals of internal medicine. 1992;116(7):529-34.
55. Lee HJ, Park HJ, Chae Y, Kim SY, Kim SN, Kim ST, Kim JH, Yin CS, Lee H. Tai Chi Qigong for the quality of life of patients with knee osteoarthritis: a pilot, randomized, waiting list controlled trial. Clinical rehabilitation. 2009;23(6):504-11.
56. Lim BW, Hinman RS, Wrigley TV, Sharma L, Bennell KL. Does knee malalignment mediate the effects of quadriceps strengthening on knee adduction moment, pain, and function in medial knee osteoarthritis? A randomized controlled trial. Arthritis and rheumatism. 2008;59(7):943-51.
57. Lin DH, Lin CH, Lin YF, Jan MH. Efficacy of 2 non-weight-bearing interventions, proprioception training versus strength training, for patients with knee osteoarthritis: a randomized clinical trial. The Journal of orthopaedic and sports physical therapy. 2009;39(6):450-7.
58. Lund H, Weile U, Christensen R, Rostock B, Downey A, Bartels EM, Danneskiold-Samsøe B, Bliddal H. A randomized controlled trial of aquatic and land-based exercise in patients with knee osteoarthritis. Journal of rehabilitation medicine : official journal of the UEMS European Board of Physical and Rehabilitation Medicine. 2008;40(2):137-44.
59. Maurer BT, Stern AG, Kinossian B, Cook KD, Schumacher HR. Osteoarthritis of the knee: isokinetic quadriceps exercise versus an educational intervention. Archives of physical medicine and rehabilitation. 1999;80(10):1293-9.
60. Messier SP, Loeser RF, Miller GD, Morgan TM, Rejeski WJ, Sevick MA, Ettinger WH, Pahor M, Williamson JD. Exercise and dietary weight loss in overweight and obese older adults with knee osteoarthritis: the Arthritis, Diet, and Activity Promotion Trial. Arthritis and rheumatism. 2004;50(5):1501-10.
61. Mikesky AE, Mazzuca SA, Brandt KD, Perkins SM, Damush T, Lane KA. Effects of strength training on the incidence and progression of knee osteoarthritis. Arthritis and rheumatism. 2006;55(5):690-9.
62. Minor MA, Hewett JE, Webel RR, Anderson SK, Kay DR. Efficacy of physical conditioning exercise in patients with rheumatoid arthritis and osteoarthritis. Arthritis and rheumatism. 1989;32(11):1396-405.
63. O'Reilly SC, Muir KR, Doherty M. Effectiveness of home exercise on pain and disability from osteoarthritis of the knee: a randomised controlled trial. Annals of the rheumatic diseases. 1999;58(1):15-9.
64. Quilty B, Tucker M, Campbell R, Dieppe P. Physiotherapy, including quadriceps exercises and patellar taping, for knee osteoarthritis with predominant patello-femoral joint involvement: randomized controlled trial. The Journal of rheumatology. 2003;30(6):1311-7.
65. Péloquin L, Bravo G, Gauthier P, Lacombe G, Billiard JS. Effects of a Cross-Training Exercise Program in Persons with Osteoarthritis of the Knee A Randomized Controlled Trial. Journal of clinical rheumatology : practical reports on rheumatic & musculoskeletal diseases. 2008;5(3):126-136.
66. Røgind H, Bibow-Nielsen B, Jensen B, Møller HC, Frimodt-Møller H, Bliddal H. The effects of a physical training program on patients with osteoarthritis of the knees. Archives of physical medicine and rehabilitation. 1998;79(11):1421-7.

67. Salacinski AJ, Krohn K, Lewis SF, Holland ML, Ireland K, Marchetti G. The effects of group cycling on gait and pain-related disability in individuals with mild-to-moderate knee osteoarthritis: a randomized controlled trial. The Journal of orthopaedic and sports physical therapy. 2012;42(12):985-95.
68. Salli, Ali, Sahin, Nilay, Baskent, Akin, Ugurlu, Hatice. The effect of two exercise programs on various functional outcome measures in patients with osteoarthritis of the knee: A randomized controlled clinical trial. Isokinetics and Exercise Science. 2010;18(4):201-209.
69. Schilke JM, Johnson GO, Housh TJ, O'Dell JR. Effects of muscle-strength training on the functional status of patients with osteoarthritis of the knee joint. Nursing research. 1996;45(2):68-72.
70. Simão AP, Avelar NC, Tossige-Gomes R, Neves CD, Mendonça VA, Miranda AS, Teixeira MM, Teixeira AL, Andrade AP, Coimbra CC, Lacerda AC. Functional performance and inflammatory cytokines after squat exercises and whole-body vibration in elderly individuals with knee osteoarthritis. Archives of physical medicine and rehabilitation. 2012;93(10):1692-700.
71. Song R, Lee EO, Lam P, Bae SC. Effects of tai chi exercise on pain, balance, muscle strength, and perceived difficulties in physical functioning in older women with osteoarthritis: a randomized clinical trial. The Journal of rheumatology. 2003;30(9):2039-44.
72. Talbot LA, Gaines JM, Huynh TN, Metter EJ. A home-based pedometer-driven walking program to increase physical activity in older adults with osteoarthritis of the knee: a preliminary study. Journal of the American Geriatrics Society. 2003;51(3):387-92.
73. Thomas KS, Muir KR, Doherty M, Jones AC, O'Reilly SC, Bassey EJ. Home based exercise programme for knee pain and knee osteoarthritis: randomised controlled trial. BMJ (Clinical research ed.). 2002;325(7367):752.
74. Thorstensson CA, Roos EM, Petersson IF, Ekdahl C. Six-week high-intensity exercise program for middle-aged patients with knee osteoarthritis: a randomized controlled trial [ISRCTN20244858]. BMC musculoskeletal disorders. 2005;6:27.
75. Topp R, Woolley S, Hornyak J, Khuder S, Kahaleh B. The effect of dynamic versus isometric resistance training on pain and functioning among adults with osteoarthritis of the knee. Archives of physical medicine and rehabilitation. 2002;83(9):1187-95.
76. van Baar ME, Dekker J, Oostendorp RA, Bijl D, Voorn TB, Lemmens JA, Bijlsma JW. The effectiveness of exercise therapy in patients with osteoarthritis of the hip or knee: a randomized clinical trial. The Journal of rheumatology. 1999;25(12):2432-9.
77. Wang TJ, Lee SC, Liang SY, Tung HH, Wu SF, Lin YP. Comparing the efficacy of aquatic exercises and land-based exercises for patients with knee osteoarthritis. Journal of clinical nursing. 2011;20(17-18):2609-22.
78. Yip YB, Sit JW, Fung KK, Wong DY, Chong SY, Chung LH, Ng TP. Impact of an Arthritis Self-Management Programme with an added exercise component for osteoarthritic knee sufferers on improving pain, functional outcomes, and use of health care services: An experimental study. Patient education and counseling. 2007;65(1):113-21.