

## Appendix 1:

Search Date: 30 June 2017

PubMed

Search #	Search String	Results
1	((("Lumbosacral Region"[Mesh] OR Lumbosacral[tiab] OR "lumbar"[tiab] OR "low back"[tiab]) AND Pain[tiab]) OR "Low Back Pain"[Mesh] OR "low back pain"[tiab] OR lumbago[tiab])	44780
2	"Analgesics, Opioid" [Pharmacological Action] OR "Analgesics, Opioid"[Mesh] OR "codeine"[MeSH Terms] OR "fentanyl"[MeSH Terms] OR "hydrocodone"[MeSH Terms] OR "acetaminophen, hydrocodone drug combination"[Supplementary Concept] OR "hydromorphone"[MeSH Terms] OR "meperidine"[MeSH Terms] OR "methadone"[MeSH Terms] OR "morphine"[MeSH Terms] OR "oxycodone"[MeSH Terms] OR "oxycodone-acetaminophen"[Supplementary Concept] OR "naloxone"[MeSH Terms] OR "Opiate Alkaloids"[Mesh] OR "Oxymorphone"[Mesh] OR "Narcotics"[Mesh] OR Opioid[tiab] OR opioids[tiab] OR opiate[tiab] OR opiates[tiab] OR "codeine"[tiab] OR "fentanyl"[tiab] OR atiq[tiab] OR "fentanyl"[tiab] OR "duragesic"[tiab] OR "fentora"[tiab] OR "hydrocodone"[tiab] OR "Hysingla ER"[tiab] OR "Zohydro ER"[tiab] OR "hydrocodone/acetaminophen"[tiab] OR loret[tiab] OR lortat[tiab] OR narco[tiab] OR "vicodin"[tiab] OR "hydromorphone"[tiab] OR "dilaudid"[tiab] OR exalto[tiab] OR "meperidine"[tiab] OR "demerol"[tiab] OR "methadone"[tiab] OR "morphine"[tiab] OR astromorph[tiab] OR avinza[tiab] OR kadian[tiab] OR "MS Contin"[tiab] OR "oxycodone"[tiab] OR "oxycontin"[tiab] OR oxecta[tiab] OR roxicodone[tiab] OR "oxycodone-acetaminophen"[tiab] OR "percocet"[tiab] OR endocert[tiab] OR toxicet[tiab] OR "naloxone"[tiab] OR Targiniq[tiab] OR "Oxymorphone"[tiab] OR "Narcotic"[tiab] OR narcotics[tiab]	192658
3	(randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab] OR Clinical trial[pt] OR "clinical trial"[tiab] OR "clinical trials"[tiab] OR "evaluation studies"[Publication Type] OR "evaluation studies as topic"[MeSH Terms] OR "evaluation study"[tiab] OR evaluation studies[tiab] OR "intervention studies"[tiab] OR "intervention study"[tiab] OR "intervention studies"[tiab] OR "case-control studies"[MeSH Terms] OR "case-control"[tiab] OR "cohort studies"[MeSH Terms] OR cohort[tiab] OR "longitudinal studies"[MeSH Terms] OR "longitudinal"[tiab] OR longitudinally[tiab] OR "prospective"[tiab] OR prospectively[tiab] OR "retrospective studies"[MeSH Terms] OR "retrospective"[tiab] OR "follow up"[tiab] OR "comparative study"[Publication Type] OR "comparative study"[tiab] OR systematic[subset] OR "meta-analysis"[Publication Type] OR "meta-analysis as topic"[MeSH Terms] OR "meta-analysis"[tiab] OR "meta-analyses"[tiab]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp]) NOT (animals[mh] NOT humans[mh])	6126226
4	#1 AND #2 AND #3	1504
5	Filters: English	1397

Embase

Search #	Search String	Results
1	((('lumbosacral region'/exp OR Lumbosacral:ti,ab OR 'lumbar':ti,ab OR 'low back':ti,ab) AND Pain:ti,ab) OR 'low back pain'/exp OR 'low back pain':ti,ab OR lumbago:ti,ab)	75892

2	'narcotic analgesic agent'/exp OR 'opiate receptor affecting agent'/exp OR 'narcotic agent'/exp OR Opioid:ti,ab OR opioids:ti,ab OR opiate:ti,ab OR opiates:ti,ab OR 'codeine':ti,ab OR 'fentanyl':ti,ab OR atiq:ti,ab OR 'fentanyl':ti,ab OR 'duragesic':ti,ab OR 'fentora':ti,ab OR 'hydrocodone':ti,ab OR 'Hysingla ER':ti,ab OR 'Zohydro ER':ti,ab OR 'hydrocodone/acetaminophen':ti,ab OR loret:ti,ab OR lortat:ti,ab OR narco:ti,ab OR 'vicodin':ti,ab OR 'hydromorphone':ti,ab OR 'dilaudid':ti,ab OR exalto:ti,ab OR 'meperidine':ti,ab OR 'demerol':ti,ab OR 'methadone':ti,ab OR 'morphine':ti,ab OR astromorph:ti,ab OR avinza:ti,ab OR kadian:ti,ab OR 'MS Contin':ti,ab OR 'oxycodone':ti,ab OR 'oxycontin':ti,ab OR oxecta:ti,ab OR roxicodone:ti,ab OR 'oxycodone-acetaminophen':ti,ab OR 'percocet':ti,ab OR endocert:ti,ab OR toxicet:ti,ab OR 'naloxone':ti,ab OR Targiniq:ti,ab OR 'Oxymorphone':ti,ab OR 'Narcotic':ti,ab OR narcotics:ti,ab	460080
3	('randomized controlled trial'/exp OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random*:ab,ti OR factorial*:ab,ti OR crossover*:ab,ti OR (cross NEAR/1 over*):ab,ti OR placebo*:ab,ti OR (doubl* NEAR/1 blind*):ab,ti OR (singl* NEAR/1 blind*):ab,ti OR assign*:ab,ti OR allocat*:ab,ti OR volunteer*:ab,ti OR 'clinical study'/exp OR 'clinical trial':ti,ab OR 'clinical trials':ti,ab OR 'controlled study'/exp OR 'evaluation'/exp OR 'evaluation study':ab,ti OR 'evaluation studies':ab,ti OR 'intervention study':ab,ti OR 'intervention studies':ab,ti OR 'case control':ab,ti OR 'cohort analysis'/exp OR cohort:ab,ti OR longitudinal*:ab,ti OR prospective:ab,ti OR prospectively:ab,ti OR retrospective:ab,ti OR 'follow up'/exp OR 'follow up':ab,ti OR 'comparative effectiveness'/exp OR 'comparative study'/exp OR 'comparative study':ab,ti OR 'comparative studies':ab,ti OR 'evidence based medicine'/exp OR 'systematic review':ab,ti OR 'meta-analysis':ab,ti OR 'meta-analyses':ab,ti) NOT ('case report'/exp OR 'case study'/exp OR 'editorial'/exp OR 'letter'/exp OR 'note'/exp OR [conference abstract]/lim) AND [humans]/lim AND [english]/lim AND [embase]/lim NOT [medline]/lim	915975
4	#1 AND #2 AND #3	572

#### Web of Science

Search #	Search String	Results
1	TS=((Lumbosacral OR lumbar OR "low back") AND Pain) OR "low back pain" OR lumbago)	51456
2	TS=(opiod OR opioids OR opiate OR opiates OR narcotic OR narcotics)	106313
3	TS=((randomized controlled trial OR controlled clinical trial OR randomized OR randomised OR randomization OR randomisation OR placebo OR drug therapy[sh] OR randomly OR trial OR groups OR "clinical trial" OR "clinical trials" OR "evaluation studies" OR "evaluation studies as topic" OR "evaluation study" OR evaluation studies OR "intervention studies" OR "intervention study" OR "intervention studies" OR "case-control studies" OR "case-control" OR "cohort studies" OR cohort OR "longitudinal studies" OR "longitudinal" OR longitudinally OR "prospective" OR prospectively OR "retrospective studies" OR "retrospective" OR "follow up" OR "comparative study" OR "comparative study" OR systematic OR "meta-analysis" OR "meta-analysis as topic" OR "meta-analysis" OR "meta-analyses") NOT (Editorial OR Letter OR Case Reports OR Comment))	6126226
4	#1 AND #2 AND #3	1490
5	Filter: Languages: (English) AND Document Types: ( Article OR Review)	1419

Update Search Date: 25 September 2018

PubMed

Search #	Search String	Results
1	((("Lumbosacral Region"[Mesh] OR Lumbosacral[tiab] OR "lumbar"[tiab] OR "low back"[tiab]) AND Pain[tiab]) OR "Low Back Pain"[Mesh] OR "low back pain"[tiab] OR lumbago[tiab] AND ("2017/06/01"[mhda] : "3000/12/31"[mhda]))	35
2	"Analgesics, Opioid" [Pharmacological Action] OR "Analgesics, Opioid"[Mesh] OR "codeine"[MeSH Terms] OR "fentanyl"[MeSH Terms] OR "hydrocodone"[MeSH Terms] OR "acetaminophen, hydrocodone drug combination"[Supplementary Concept] OR "hydromorphone"[MeSH Terms] OR "meperidine"[MeSH Terms] OR "methadone"[MeSH Terms] OR "morphine"[MeSH Terms] OR "oxycodone"[MeSH Terms] OR "oxycodone-acetaminophen"[Supplementary Concept] OR "naloxone"[MeSH Terms] OR "Opiate Alkaloids"[Mesh] OR "Oxymorphone"[Mesh] OR "Narcotics" [Mesh] OR Opioid[tiab] OR opioids[tiab] OR opiate[tiab] OR opiates[tiab] OR "codeine"[tiab] OR "fentanyl"[tiab] OR atiq[tiab] OR "fentanyl"[tiab] OR "duragesic"[tiab] OR "fentora"[tiab] OR "hydrocodone"[tiab] OR "Hysingla ER"[tiab] OR "Zohydro ER"[tiab] OR "hydrocodone/acetaminophen"[tiab] OR loret[tiab] OR lortat[tiab] OR narco[tiab] OR "vicodin"[tiab] OR "hydromorphone"[tiab] OR "dilaudid"[tiab] OR exalto[tiab] OR "meperidine"[tiab] OR "demerol"[tiab] OR "methadone"[tiab] OR "morphine"[tiab] OR astromorph[tiab] OR avinza[tiab] OR kadian[tiab] OR "MS Contin"[tiab] OR "oxycodone"[tiab] OR "oxycontin"[tiab] OR oxecta[tiab] OR roxicodone[tiab] OR "oxycodone-acetaminophen"[tiab] OR "percocet"[tiab] OR endocert[tiab] OR toxicet[tiab] OR "naloxone"[tiab] OR Targiniq[tiab] OR "Oxymorphone"[tiab] OR "Narcotic"[tiab] OR narcotics[tiab] AND ("2017/06/01"[mhda] : "3000/12/31"[mhda]))	36
3	(randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR randomised[tiab] OR randomization[tiab] OR randomisation[tiab] OR placebo[tiab] OR drug therapy[sh] OR randomly[tiab] OR trial[tiab] OR groups[tiab] OR Clinical trial[pt] OR "clinical trial"[tiab] OR "clinical trials"[tiab] OR "evaluation studies"[Publication Type] OR "evaluation studies as topic"[MeSH Terms] OR "evaluation study"[tiab] OR evaluation studies[tiab] OR "intervention studies"[tiab] OR "intervention study"[tiab] OR "intervention studies"[tiab] OR "case-control studies"[MeSH Terms] OR "case-control"[tiab] OR "cohort studies"[MeSH Terms] OR cohort[tiab] OR "longitudinal studies"[MeSH Terms] OR "longitudinal"[tiab] OR longitudinally[tiab] OR "prospective"[tiab] OR prospectively[tiab] OR "retrospective studies"[MeSH Terms] OR "retrospective"[tiab] OR "follow up"[tiab] OR "comparative study"[Publication Type] OR "comparative study"[tiab] OR systematic[subset] OR "meta-analysis"[Publication Type] OR "meta-analysis as topic"[MeSH Terms] OR "meta-analysis"[tiab] OR "meta-analyses"[tiab]) NOT (Editorial[ptyp] OR Letter[ptyp] OR Case Reports[ptyp] OR Comment[ptyp]) NOT (animals[mh] NOT humans[mh]) AND ("2017/06/01"[mhda] : "3000/12/31"[mhda]))	2511
4	#1 AND #2 AND #3	221
5	Filters: English	215

Embase

Search #	Search String	Results
1	((('lumbosacral region'/exp OR Lumbosacral:ti,ab OR 'lumbar':ti,ab OR 'low back':ti,ab) AND Pain:ti,ab) OR 'low back pain'/exp OR 'low back pain':ti,ab OR lumbago:ti,ab AND [1-6-2017]/sd)	8637

2	'narcotic analgesic agent'/exp OR 'opiate receptor affecting agent'/exp OR 'narcotic agent'/exp OR Opioid:ti,ab OR opioids:ti,ab OR opiate:ti,ab OR opiates:ti,ab OR 'codeine':ti,ab OR 'fentanyl':ti,ab OR atiq:ti,ab OR 'fentanyl':ti,ab OR 'duragesic':ti,ab OR 'fentora':ti,ab OR 'hydrocodone':ti,ab OR 'Hysingla ER':ti,ab OR 'Zohydro ER':ti,ab OR 'hydrocodone/acetaminophen':ti,ab OR loret:ti,ab OR lortat:ti,ab OR narco:ti,ab OR 'vicodin':ti,ab OR 'hydromorphone':ti,ab OR 'dilaudid':ti,ab OR exalto:ti,ab OR 'meperidine':ti,ab OR 'demerol':ti,ab OR 'methadone':ti,ab OR 'morphine':ti,ab OR astromorph:ti,ab OR avinza:ti,ab OR kadian:ti,ab OR 'MS Contin':ti,ab OR 'oxycodone':ti,ab OR 'oxycontin':ti,ab OR oxecta:ti,ab OR roxicodone:ti,ab OR 'oxycodone-acetaminophen':ti,ab OR 'percocet':ti,ab OR endocert:ti,ab OR toxicet:ti,ab OR 'naloxone':ti,ab OR Targiniq:ti,ab OR 'Oxymorphone':ti,ab OR 'Narcotic':ti,ab OR narcotics:ti,ab AND [1-6-2017]/sd	31491
3	('randomized controlled trial'/exp OR 'crossover procedure'/exp OR 'double blind procedure'/exp OR 'single blind procedure'/exp OR random*:ab,ti OR factorial*:ab,ti OR crossover*:ab,ti OR (cross NEAR/1 over*):ab,ti OR placebo*:ab,ti OR (doubl* NEAR/1 blind*):ab,ti OR (singl* NEAR/1 blind*):ab,ti OR assign*:ab,ti OR allocat*:ab,ti OR volunteer*:ab,ti OR 'clinical study'/exp OR 'clinical trial':ti,ab OR 'clinical trials':ti,ab OR 'controlled study'/exp OR 'evaluation'/exp OR 'evaluation study':ab,ti OR 'evaluation studies':ab,ti OR 'intervention study':ab,ti OR 'intervention studies':ab,ti OR 'case control':ab,ti OR 'cohort analysis'/exp OR cohort:ab,ti OR longitudinal*:ab,ti OR prospective:ab,ti OR prospectively:ab,ti OR retrospective:ab,ti OR 'follow up'/exp OR 'follow up':ab,ti OR 'comparative effectiveness'/exp OR 'comparative study'/exp OR 'comparative study':ab,ti OR 'comparative studies':ab,ti OR 'evidence based medicine'/exp OR 'systematic review':ab,ti OR 'meta-analysis':ab,ti OR 'meta-analyses':ab,ti) NOT ('case report'/exp OR 'case study'/exp OR 'editorial'/exp OR 'letter'/exp OR 'note'/exp OR [conference abstract]/lim) AND [humans]/lim AND [english]/lim AND [embase]/lim NOT [medline]/lim AND [1-6-2017]/sd	298498
4	#1 AND #2 AND #3	135

#### Web of Science

Search #	Search String	Results
1	TS=((Lumbosacral OR lumbar OR "low back") AND Pain) OR "low back pain" OR lumbago) <b>Timespan=2017-2018</b>	7664
2	TS=(opioid OR opioids OR opiate OR opiates OR narcotic OR narcotics) <b>Timespan=2017-2018</b>	12091
3	TS=((randomized controlled trial OR controlled clinical trial OR randomized OR randomised OR randomization OR randomisation OR placebo OR drug therapy[sh] OR randomly OR trial OR groups OR "clinical trial" OR "clinical trials" OR "evaluation studies" OR "evaluation studies as topic" OR "evaluation study" OR evaluation studies OR "intervention studies" OR "intervention study" OR "intervention studies" OR "case-control studies" OR "case-control" OR "cohort studies" OR cohort OR "longitudinal studies" OR "longitudinal" OR longitudinally OR "prospective" OR prospectively OR "retrospective studies" OR "retrospective" OR "follow up" OR "comparative study" OR "comparative study" OR systematic OR "meta-analysis" OR "meta-analysis as topic" OR "meta-analysis" OR "meta-analyses") NOT (Editorial OR Letter OR Case Reports OR Comment)) <b>Timespan=2017-2018</b>	956071
4	#1 AND #2 AND #3	298
5	Filter: Languages: (English) AND Document Types: ( Article OR Review)	290

