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## Search Strategies for “Analgesic Safety and Efficacy of Intrathecal Morphine in Elective Posterior Lumbar Fusion: A Systematic Review with Meta-Analyses”

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Cynthia M. Schmidt

Daniel Surdell

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Title: Search Strategies for “Analgesic Safety and Efficacy of Intrathecal Morphine in Elective Posterior Lumbar Fusion: A Systematic Review with Meta-Analyses”

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**Outlined version of EMBASE search (names for morphine were obtained from EMBASE's EMTREE thesaurus and from *Martindale: The Complete Drug Reference*):**

Intrathecal concept (	(
Headings and subheadings for intrathecal (tl is a subheading for intrathecal)	'morphine'/exp/dd_tl OR 'intrathecal drug administration'/exp
OR	OR
Keywords for intrathecal	intrathecal:ab,jt,kw,ti OR subarachnoid:ab,jt,kw,ti OR subdural:ab,jt,kw,ti OR subpial:ab,jt,kw,ti OR 'intrathecal':ab,jt,kw,ti OR 'sub arachnoid':ab,jt,kw,ti OR 'subdural':ab,jt,kw,ti OR 'sub pial':ab,jt,kw,ti
)	)
AND	AND
Morphine concept	

(	(
Morphine headings	'morphine'/exp/dd_tl OR 'morphine'/exp/mj
OR	OR
Names for morphine	'7,8-didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol':ab,jt,kw,ti OR '3, 6 dihydroxy n methyl 4, 5 epoxy 7 morphinene':ab,jt,kw,ti OR '302 31 8':ab,jt,kw,ti OR '52 26 6':ab,jt,kw,ti OR '57 27 2':ab,jt,kw,ti OR '6009 81 0':ab,jt,kw,ti OR '6032 59 3':ab,jt,kw,ti OR '6055 06':ab,jt,kw,ti OR '6211 15 0':ab,jt,kw,ti OR '64 31 3':ab,jt,kw,ti OR actimorph:ab,jt,kw,ti OR actiskenan:ab,jt,kw,ti OR algedol:ab,jt,kw,ti OR amidiaz:ab,jt,kw,ti OR analfin:ab,jt,kw,ti OR analmorph:ab,jt,kw,ti OR anamorph:ab,jt,kw,ti OR anpec:ab,jt,kw,ti OR arymo:ab,jt,kw,ti OR astramorph:ab,jt,kw,ti OR avinza:ab,jt,kw,ti OR biogenfine:ab,jt,kw,ti OR capros:ab,jt,kw,ti OR compensan:ab,jt,kw,ti OR contalgin:ab,jt,kw,ti OR depodur:ab,jt,kw,ti OR depolan:ab,jt,kw,ti OR dimorf:ab,jt,kw,ti OR docmorphine:ab,jt,kw,ti OR dolcontin:ab,jt,kw,ti OR 'dolo moff':ab,jt,kw,ti OR doloral:ab,jt,kw,ti OR dolq:ab,jt,kw,ti OR doltard:ab,jt,kw,ti OR duralgin:ab,jt,kw,ti OR duralmor:ab,jt,kw,ti OR duramor:ab,jt,kw,ti OR duramorph:ab,jt,kw,ti OR efemorf:ab,jt,kw,ti OR embeda:ab,jt,kw,ti OR epimorph:ab,jt,kw,ti OR ethirfin:ab,jt,kw,ti OR filnarine:ab,jt,kw,ti OR gno:ab,jt,kw,ti OR graten:ab,jt,kw,ti OR grumorph:ab,jt,kw,ti OR infumorph:ab,jt,kw,ti OR kadian:ab,jt,kw,ti OR kapabloc:ab,jt,kw,ti OR kapanol:ab,jt,kw,ti OR 'la morph':ab,jt,kw,ti OR loceptin:ab,jt,kw,ti OR malfin:ab,jt,kw,ti OR maracex:ab,jt,kw,ti OR maxidon:ab,jt,kw,ti OR 'm beta':ab,jt,kw,ti OR mcr:ab,jt,kw,ti OR 'm dolor':ab,jt,kw,ti OR meifeikang:ab,jt,kw,ti OR 'm eslon':ab,jt,kw,ti OR mir:ab,jt,kw,ti OR miro:ab,jt,kw,ti OR mitigo:ab,jt,kw,ti OR 'm long':ab,jt,kw,ti OR mogetic:ab,jt,kw,ti OR momex:ab,jt,kw,ti

OR mongol:ab,jt,kw,ti OR morapid:ab,jt,kw,ti OR  
moraxen:ab,jt,kw,ti OR morcap:ab,jt,kw,ti OR  
morcontin:ab,jt,kw,ti OR moretal:ab,jt,kw,ti OR  
morf:ab,jt,kw,ti OR morfenil:ab,jt,kw,ti OR morfia:ab,jt,kw,ti  
OR morficontin:ab,jt,kw,ti OR morfiini:ab,jt,kw,ti OR  
morfiinihydrokloridi:ab,jt,kw,ti OR morfiinisulfaatti:ab,jt,kw,ti  
OR morfin:ab,jt,kw,ti OR morfina:ab,jt,kw,ti OR  
morfine:ab,jt,kw,ti OR morfinhydroklorid:ab,jt,kw,ti OR  
morfino:ab,jt,kw,ti OR morfinsulfat:ab,jt,kw,ti OR  
morfiny:ab,jt,kw,ti OR morin:ab,jt,kw,ti OR  
morixon:ab,jt,kw,ti OR morph:ab,jt,kw,ti OR  
morphabond:ab,jt,kw,ti OR morphanton:ab,jt,kw,ti OR  
morphes:ab,jt,kw,ti OR morphex:ab,jt,kw,ti OR  
morphgesic:ab,jt,kw,ti OR morphia:ab,jt,kw,ti OR  
morphin:ab,jt,kw,ti OR morphine:ab,jt,kw,ti OR  
morphinhydrochlorid:ab,jt,kw,ti OR morphini:ab,jt,kw,ti OR  
morphinium:ab,jt,kw,ti OR morphinsulfat:ab,jt,kw,ti OR  
morphinum:ab,jt,kw,ti OR morphitec:ab,jt,kw,ti OR  
morphitroy:ab,jt,kw,ti OR morphium:ab,jt,kw,ti OR  
morstel:ab,jt,kw,ti OR mos:ab,jt,kw,ti OR  
moscontin:ab,jt,kw,ti OR 'm retard':ab,jt,kw,ti OR  
ms?:ab,jt,kw,ti OR ms?s:ab,jt,kw,ti OR 'ms contin':ab,jt,kw,ti  
OR 'ms direct':ab,jt,kw,ti OR msi:ab,jt,kw,ti OR msir:ab,jt,kw,ti  
OR 'ms long':ab,jt,kw,ti OR 'ms mono':ab,jt,kw,ti OR  
msp:ab,jt,kw,ti OR msr:ab,jt,kw,ti OR mst:ab,jt,kw,ti OR 'm  
stada':ab,jt,kw,ti OR 'ms twicelon':ab,jt,kw,ti OR  
mundidol:ab,jt,kw,ti OR mxl:ab,jt,kw,ti OR  
neocalmans:ab,jt,kw,ti OR noceptin:ab,jt,kw,ti OR  
oblioser:ab,jt,kw,ti OR oglos:ab,jt,kw,ti OR  
omorfate:ab,jt,kw,ti OR omorphate:ab,jt,kw,ti OR 'oms  
concentrate':ab,jt,kw,ti OR onkomorphin:ab,jt,kw,ti OR  
opso:ab,jt,kw,ti OR oramorph:ab,jt,kw,ti OR ordine:ab,jt,kw,ti  
OR pacif:ab,jt,kw,ti OR painbreak:ab,jt,kw,ti OR 'p  
guard':ab,jt,kw,ti OR 'ra morph':ab,jt,kw,ti OR  
relimal:ab,jt,kw,ti OR relipain:ab,jt,kw,ti OR  
repriadol:ab,jt,kw,ti OR rhotard:ab,jt,kw,ti OR rms:ab,jt,kw,ti

	OR roxanol:ab,jt,kw,ti OR samor:ab,jt,kw,ti OR sendolor:ab,jt,kw,ti OR sevredol:ab,jt,kw,ti OR 'sevre long':ab,jt,kw,ti OR 'shi ni kang':ab,jt,kw,ti OR skenan:ab,jt,kw,ti OR 'slo morph':ab,jt,kw,ti OR slovalgin:ab,jt,kw,ti OR 'srm rhotard':ab,jt,kw,ti OR statex:ab,jt,kw,ti OR stellaphine:ab,jt,kw,ti OR stellorphinad:ab,jt,kw,ti OR stellorphine:ab,jt,kw,ti OR substitol:ab,jt,kw,ti OR ticinan:ab,jt,kw,ti OR transmorphine:ab,jt,kw,ti OR 'uni mist':ab,jt,kw,ti OR vendal:ab,jt,kw,ti OR zomorph:ab,jt,kw,ti
)	)
AND	AND
Posterior lumbar fusion concept (	(
Heading	'posterior lumbar interbody fusion'/exp
OR	OR
Posterior words within 10 words of lumbar words within 10 words for fusion related words	((((posterior OR postero* OR dorso* OR dorsal) NEAR/10 (lumbar OR I1 OR I2 OR I3 OR I4 OR I5 OR lumbo* OR thoracolumbar) NEAR/10 (fus* OR arthrodes* OR pseudoarth* OR cage* OR peek OR interbody OR 'multi level' OR fixat* OR stabili* OR condens* OR graft* OR allograft* OR autograft* OR rod* OR screw* OR instrumentat* OR transvert* OR 'trans vert*' OR 'trans artic*' OR transartic*)):ab,jt,kw,ti)
OR	OR
Abbreviations	plif:ab,jt,kw,ti OR plf:ab,jt,kw,ti
)	)
Remove conference abstracts	NOT 'conference abstract'/it
Remove articles about children that	NOT (([infant]/lim OR [child]/lim OR [adolescent]/lim) AND ([adult]/lim OR [aged]/lim))

are not also about adults	
English only	AND [english]/lim
Remove articles about animals that are not also about humans	NOT ([animals]/lim NOT [humans]/lim)

EMBASE (via embase.com; 1974-present version)

('morphine'/exp/dd\_tl OR 'intrathecal drug administration'/exp OR intrathecal:ab,jt,kw,ti OR subarachnoid:ab,jt,kw,ti OR subdural:ab,jt,kw,ti OR subpial:ab,jt,kw,ti OR 'intra thecal':ab,jt,kw,ti OR 'sub arachnoid':ab,jt,kw,ti OR 'sub dural':ab,jt,kw,ti OR 'sub pial':ab,jt,kw,ti) AND ('morphine'/exp/dd\_tl OR 'morphine'/exp/mj OR '7,8-didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol':ab,jt,kw,ti OR '3, 6 dihydroxy n methyl 4, 5 epoxy 7 morphinene':ab,jt,kw,ti OR '302 31 8':ab,jt,kw,ti OR '52 26 6':ab,jt,kw,ti OR '57 27 2':ab,jt,kw,ti OR '6009 81 0':ab,jt,kw,ti OR '6032 59 3':ab,jt,kw,ti OR '6055 06':ab,jt,kw,ti OR '6211 15 0':ab,jt,kw,ti OR '64 31 3':ab,jt,kw,ti OR actimorph:ab,jt,kw,ti OR actiskenan:ab,jt,kw,ti OR algedol:ab,jt,kw,ti OR amidiaz:ab,jt,kw,ti OR analfin:ab,jt,kw,ti OR analmorph:ab,jt,kw,ti OR anamorph:ab,jt,kw,ti OR anpec:ab,jt,kw,ti OR arymo:ab,jt,kw,ti OR astramorph:ab,jt,kw,ti OR avinza:ab,jt,kw,ti OR biogenfine:ab,jt,kw,ti OR capros:ab,jt,kw,ti OR compensan:ab,jt,kw,ti OR contalgin:ab,jt,kw,ti OR depodur:ab,jt,kw,ti OR depolan:ab,jt,kw,ti OR dimorf:ab,jt,kw,ti OR docmorphine:ab,jt,kw,ti OR dolcontin:ab,jt,kw,ti OR 'dolo moff':ab,jt,kw,ti OR doloral:ab,jt,kw,ti OR dolq:ab,jt,kw,ti OR doltard:ab,jt,kw,ti OR duralgin:ab,jt,kw,ti OR duralmor:ab,jt,kw,ti OR duramor:ab,jt,kw,ti OR duramorph:ab,jt,kw,ti OR efemorf:ab,jt,kw,ti OR embeda:ab,jt,kw,ti OR epimorph:ab,jt,kw,ti OR ethirfin:ab,jt,kw,ti OR filnarine:ab,jt,kw,ti OR gno:ab,jt,kw,ti OR graten:ab,jt,kw,ti OR grumorph:ab,jt,kw,ti OR infumorph:ab,jt,kw,ti OR kadian:ab,jt,kw,ti OR kapabloc:ab,jt,kw,ti OR kapanol:ab,jt,kw,ti OR 'la morph':ab,jt,kw,ti OR loceptin:ab,jt,kw,ti OR malfin:ab,jt,kw,ti OR maracex:ab,jt,kw,ti OR maxidon:ab,jt,kw,ti OR 'm beta':ab,jt,kw,ti OR mcr:ab,jt,kw,ti OR 'm dolor':ab,jt,kw,ti OR meifeikang:ab,jt,kw,ti OR 'm eslon':ab,jt,kw,ti OR mir:ab,jt,kw,ti OR miro:ab,jt,kw,ti OR mitigo:ab,jt,kw,ti OR 'm long':ab,jt,kw,ti OR mogetic:ab,jt,kw,ti OR momex:ab,jt,kw,ti OR mongol:ab,jt,kw,ti OR morapid:ab,jt,kw,ti OR moraxen:ab,jt,kw,ti OR morcap:ab,jt,kw,ti OR morcontin:ab,jt,kw,ti OR moretal:ab,jt,kw,ti OR morf:ab,jt,kw,ti OR morfenil:ab,jt,kw,ti OR morfia:ab,jt,kw,ti OR morficontin:ab,jt,kw,ti OR morfiini:ab,jt,kw,ti OR morfiinihydrokloridi:ab,jt,kw,ti OR morfiinisulfaatti:ab,jt,kw,ti OR morfin:ab,jt,kw,ti OR morfina:ab,jt,kw,ti OR morfine:ab,jt,kw,ti OR morfinhydroklorid:ab,jt,kw,ti OR morfino:ab,jt,kw,ti OR morfinsulfat:ab,jt,kw,ti OR morfiny:ab,jt,kw,ti OR morin:ab,jt,kw,ti OR morixon:ab,jt,kw,ti OR morph:ab,jt,kw,ti OR morphabond:ab,jt,kw,ti OR morphanton:ab,jt,kw,ti OR morphes:ab,jt,kw,ti OR morphex:ab,jt,kw,ti OR morphgesic:ab,jt,kw,ti OR morphia:ab,jt,kw,ti OR morphin:ab,jt,kw,ti OR morphine:ab,jt,kw,ti OR morphinhydrochlorid:ab,jt,kw,ti OR morphini:ab,jt,kw,ti OR morphinium:ab,jt,kw,ti OR morphinsulfat:ab,jt,kw,ti OR morphinum:ab,jt,kw,ti OR morphitec:ab,jt,kw,ti OR morphitroy:ab,jt,kw,ti OR morphium:ab,jt,kw,ti OR morstel:ab,jt,kw,ti OR mos:ab,jt,kw,ti OR moscontin:ab,jt,kw,ti OR 'm retard':ab,jt,kw,ti OR ms?:ab,jt,kw,ti OR ms?s:ab,jt,kw,ti OR 'ms contin':ab,jt,kw,ti OR 'ms direct':ab,jt,kw,ti OR msi:ab,jt,kw,ti OR msir:ab,jt,kw,ti OR 'ms long':ab,jt,kw,ti OR 'ms mono':ab,jt,kw,ti OR msp:ab,jt,kw,ti OR msr:ab,jt,kw,ti OR mst:ab,jt,kw,ti OR 'm stada':ab,jt,kw,ti OR 'ms twicelon':ab,jt,kw,ti OR mundidol:ab,jt,kw,ti OR mxl:ab,jt,kw,ti OR neocalmans:ab,jt,kw,ti OR noceptin:ab,jt,kw,ti OR oblioser:ab,jt,kw,ti OR oglos:ab,jt,kw,ti OR omorfate:ab,jt,kw,ti OR omorphate:ab,jt,kw,ti OR 'oms concentrate':ab,jt,kw,ti OR onkomorphin:ab,jt,kw,ti

OR opso:ab,jt,kw,ti OR oramorph:ab,jt,kw,ti OR ordine:ab,jt,kw,ti OR pacif:ab,jt,kw,ti OR painbreak:ab,jt,kw,ti OR 'p guard':ab,jt,kw,ti OR 'ra morph':ab,jt,kw,ti OR relimal:ab,jt,kw,ti OR relipain:ab,jt,kw,ti OR repriadol:ab,jt,kw,ti OR rhotard:ab,jt,kw,ti OR rms:ab,jt,kw,ti OR roxanol:ab,jt,kw,ti OR samor:ab,jt,kw,ti OR sendolor:ab,jt,kw,ti OR sevredol:ab,jt,kw,ti OR 'sevre long':ab,jt,kw,ti OR 'shi ni kang':ab,jt,kw,ti OR skenan:ab,jt,kw,ti OR 'slo morph':ab,jt,kw,ti OR slovalgin:ab,jt,kw,ti OR 'srm rhotard':ab,jt,kw,ti OR statex:ab,jt,kw,ti OR stellaphine:ab,jt,kw,ti OR stellophina:ab,jt,kw,ti OR stellophine:ab,jt,kw,ti OR substitol:ab,jt,kw,ti OR ticinan:ab,jt,kw,ti OR transmorphe:ab,jt,kw,ti OR 'uni mist':ab,jt,kw,ti OR vendal:ab,jt,kw,ti OR zomorph:ab,jt,kw,ti) AND ('posterior lumbar interbody fusion'/exp OR (((posterior OR postero\* OR dorso\* OR dorsal) NEAR/10 (lumbar OR I1 OR I2 OR I3 OR I4 OR I5 OR lumbo\* OR thoracolumbar) NEAR/10 (fus\* OR arthrodes\* OR pseudoarth\* OR cage\* OR peek OR interbody OR 'multi level' OR fixat\* OR stabili\* OR condens\* OR graft\* OR rod\* OR screw\* OR instrumentat\* OR transvert\* OR 'trans vert\*' OR 'trans artic\*' OR transartic\*)):ab,jt,kw,ti) OR plif:ab,jt,kw,ti OR plf:ab,jt,kw,ti) NOT 'conference abstract'/it NOT (([infant]/lim OR [child]/lim OR [adolescent]/lim) AND ([adult]/lim OR [aged]/lim)) AND [english]/lim NOT ( [animals]/lim NOT [humans]/lim )

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( ( (MH "Morphine") OR "7,8-didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol" OR "3, 6 dihydroxy n methyl 4, 5 epoxy 7 morphinene" OR "302 31 8" OR "52 26 6" OR "57 27 2" OR "6009 81 0" OR "6032 59 3" OR "6055 06" OR "6211 15 0" OR "64 31 3" OR actimorph OR actiskenan OR algedol OR amidiaz OR analfin OR analmorph OR anamorph OR anpec OR arymo OR astramorph OR avinza OR biogenfine OR capros OR compensan OR contalgin OR depodur OR depolan OR dimorf OR docmorfine OR dolcontin OR "dolo moff" OR doloral OR dolq OR doltard OR duralgin OR duralmor OR duramor OR duramorph OR efemorf OR embeda OR epimorph OR ethirfin OR filnarine OR gno OR graten OR grumorph OR infumorph OR kadian OR kapabloc OR kapanol OR "la morph" OR loceptin OR malfin OR maracex OR maxidon OR "m beta" OR mcr OR "m dolor" OR meifeikang OR "m eslon" OR mir OR miro OR mitigo OR "m long" OR mogetic OR momex OR mongol OR morapid OR moraxen OR morcap OR morcontin OR moretal OR morf OR morfenil OR morfia OR morficontin OR morfiini OR morfiinihydrokloridi OR morfiinisulfaatti OR morfin OR morfina OR morfine OR morfinhydroklorid OR morfino OR morfinsulfat OR morfiny OR morin OR morixon OR morph OR morphabond OR morphanton OR morphes OR morphex OR morphgesic OR morphia OR morphin OR morphine OR morphinhydrochlorid OR morphini OR morphinium OR morphinsulfat OR morphinum OR morphitec OR morphitroy OR morphium OR morstel OR mos OR moscontin OR "m retard" OR ms#l OR ms#s OR "ms contin" OR "ms direct" OR msi OR msir OR "ms long" OR "ms mono" OR msp OR msr OR mst OR "m stada" OR "ms twicelon" OR mundidol OR mxl OR neocalmans OR noceptin OR oblioser OR oglos OR omorfate OR omorphate OR "oms concentrate" OR onkomorphin OR opso OR oramorph OR ordine OR pacif OR painbreak OR "p guard" OR "ra morph" OR relimal OR relipain OR repriadol OR rhotard OR rms OR roxanol OR samor OR sendolor OR sevredol OR "sevre long" OR "shi ni kang" OR skenan OR "slo morph" OR slovalgin OR "srm rhotard" OR statex OR stellaphine OR stellophina OR stellophine OR substitol OR ticinan OR transmorphe OR "uni mist" OR vendal OR zomorph ) AND ( (intrathecal OR subarachnoid OR subdural OR subpial OR "intra thecal" OR "sub arachnoid" OR "sub dural" OR "sub pial" ) ) AND ( (((posterior OR postero\* OR dorso\* OR dorsal) N9 (lumbar OR I1 OR I2 OR I3 OR I4 OR I5 OR lumbo\* OR thoracolumbar) N9 (fus\* OR arthrodes\* OR pseudoarth\* OR cage\* OR peek OR interbody OR "multi level" OR fixat\* OR stabili\* OR condens\* OR graft\* OR allograft\* OR autograft\* OR rod\* OR screw\* OR instrumentat\* OR transvert\* OR "trans vert\*"

OR "trans artic\*" OR transartic\*) OR ((MH "Spinal Fusion") AND ((posterior OR postero\* OR dorso\* OR dorsal) N9 (lumbar OR I1 OR I2 OR I3 OR I4 OR I5 OR lumbo\* OR thoracolumbar) ) ) OR plif OR plf) ) ) AND LA "English" NOT ( MH "Animals+" NOT MH "Humans" ) NOT ( ((MH "Adolescent") OR (MH "Child+") OR (MH "Infant+")) NOT (MH "Adult+")) ) ( (MH "Morphine") OR "7,8-didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol" OR "3, 6 dihydroxy n methyl 4, 5 epoxy 7 morphinene" OR "302 31 8" OR "52 26 6" OR "57 27 2" OR "6009 81 0" OR "6032 59 3" OR "6055 06" OR "6211 15 0" OR "64 31 3" OR actimorph OR actiskenan OR algedol OR amidiaz OR analfin OR analmorph OR anamorph OR anpec OR arymo OR astramorph OR avinza OR biogenfine OR capros OR compensan OR contalgin OR depodur OR depolan OR dimorf OR docmorphine OR dolcontin OR "dolo moff" OR doloral OR dolq OR doltard OR duralgin OR duralmor OR duramor OR duramorph OR efemorf OR embeda OR epimorph OR ethirfin OR filnarine OR gno OR graten OR grumorph OR infumorph OR kadian OR kapabloc OR kapanol OR "la morph" OR loceptin OR malfin OR maracex OR maxidon OR "m beta" OR mcr OR "m dolor" OR meifeikang OR "m eslon" OR mir OR miro OR mitigo OR "m long" OR mogetic OR momex OR mongol OR morapid OR moraxen OR morcap OR morcontin OR moretal OR morf OR morfenil OR morfia OR morficontin OR morfiini OR morfiinihydrokloridi OR morfiinisulfaatti OR morfin OR morfina OR morfine OR morfinhydroklorid OR morfino OR morfinsulfat OR morfiny OR morin OR morixon OR morph OR morphabond OR morphanton OR morphes OR morphex OR morphgesic OR morphia OR morphin OR morphine OR morphinhydrochlorid OR morphini OR morphinium OR morphinsulfat OR morphinum OR morphitec OR morphitroy OR morphium OR morstel OR mos OR moscontin OR "m retard" OR ms# OR ms#s OR "ms contin" OR "ms direct" OR msi OR msir OR "ms long" OR "ms mono" OR msp OR msr OR mst OR "m stada" OR "ms twicelon" OR mundidol OR mxl OR neocalmans OR noceptin OR oblioser OR oglos OR omorfate OR omorphate OR "oms concentrate" OR onkomorphin OR opso OR oramorph OR ordine OR pacif OR painbreak OR "p guard" OR "ra morph" OR relimal OR relipain OR repriadol OR rhotard OR rms OR roxanol OR samor OR sendolor OR sevredol OR "sevre long" OR "shi ni kang" OR skenan OR "slo morph" OR slovalgin OR "srm rhotard" OR statex OR stellaphine OR stellorphinad OR stellorphine OR substitol OR ticinan OR transmorphine OR "uni mist" OR vendal OR zomorph ) AND ( (intrathecal OR subarachnoid OR subdural OR subpial OR "intra thecal" OR "sub arachnoid" OR "sub dural" OR "sub pial") ) AND ( ( (posterior OR postero\* OR dorso\* OR dorsal) N9 (lumbar OR I1 OR I2 OR I3 OR I4 OR I5 OR lumbo\* OR thoracolumbar) N9 (fus\* OR arthrodes\* OR pseudoarth\* OR cage\* OR peek OR interbody OR "multi level" OR fixat\* OR stabili\* OR condens\* OR graft\* OR allograft\* OR autograft\* OR rod\* OR screw\* OR instrumentat\* OR transvert\* OR "trans vert\*" OR "trans artic\*" OR transartic\*)) OR ((MH "Spinal Fusion") AND ((posterior OR postero\* OR dorso\* OR dorsal) N9 (lumbar OR I1 OR I2 OR I3 OR I4 OR I5 OR lumbo\* OR thoracolumbar) ) ) OR plif OR plf) ) ) AND LA "English" NOT ( MH "Animals+" NOT MH "Humans" ) NOT ( ((MH "Adolescent") OR (MH "Child+") OR (MH "Infant+")) NOT (MH "Adult+")) ) ( (MH "Morphine") OR "7,8-didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol" OR "3, 6 dihydroxy n methyl 4, 5 epoxy 7 morphinene" OR "302 31 8" OR "52 26 6" OR "57 27 2" OR "6009 81 0" OR "6032 59 3" OR "6055 06" OR "6211 15 0" OR "64 31 3" OR actimorph OR actiskenan OR algedol OR amidiaz OR analfin OR analmorph OR anamorph OR anpec OR arymo OR astramorph OR avinza OR biogenfine OR capros OR compensan OR contalgin OR depodur OR depolan OR dimorf OR docmorphine OR dolcontin OR "dolo moff" OR doloral OR dolq OR doltard OR duralgin OR duralmor OR duramor OR



duramorph OR efemorf OR embeda OR epimorph OR ethirfin OR filnarine OR gno OR graten OR grumorph OR infumorph OR kadian OR kapabloc OR kapanol OR "la morph" OR loceptin OR malfin OR maracex OR maxidon OR "m beta" OR mcr OR "m dolor" OR meifeikang OR "m eslon" OR mir OR miro OR mitigo OR "m long" OR mogetic OR momex OR mongol OR morapid OR moraxen OR morcap OR morcontin OR moretal OR morf OR morfenil OR morfia OR morficontin OR morfiini OR morfiinihydrokloridi OR morfiinisulfaatti OR morfin OR morfina OR morfine OR morfihydroklorid OR morfino OR morfinsulfat OR morfiny OR morin OR morixon OR morph OR morphabond OR morphanton OR morphes OR morphex OR morphesic OR morphia OR morphin OR morphine OR morphinhydrochlorid OR morphini OR morphinium OR morphinsulfat OR morphinum OR morphitec OR morphitroy OR morphium OR morstel OR mos OR moscontin OR "m retard" OR ms#l OR ms#s OR "ms contin" OR "ms direct" OR msi OR msir OR "ms long" OR "ms mono" OR msp OR msr OR mst OR "m stada" OR "ms twicelon" OR mundidol OR mxl OR neocalmans OR noceptin OR oblioser OR oglos OR omorfate OR omorphate OR "oms concentrate" OR onkomorphin OR opso OR oramorph OR ordine OR pacif OR painbreak OR "p guard" OR "ra morph" OR relimal OR relipain OR repriadol OR rhotard OR rms OR roxanol OR samor OR sendolor OR sevredol OR "sevre long" OR "shi ni kang" OR skenan OR "slo morph" OR slovalgin OR "srm rhotard" OR statex OR stellaphine OR stellorphinad OR stellorphine OR substitol OR ticinan OR transmorphine OR "uni mist" OR vendal OR zomorph ) AND ( (intrathecal OR subarachnoid OR subdural OR subpial OR "intra thecal" OR "sub arachnoid" OR "sub dural" OR "sub pial" ) ) AND ( ( ( (posterior OR postero\* OR dorso\* OR dorsal) N9 (lumbar OR l1 OR l2 OR l3 OR l4 OR l5 OR lumbo\* OR thoracolumbar) N9 (fus\* OR arthrodes\* OR pseudoarth\* OR cage\* OR peek OR interbody OR "multi level" OR fixat\* OR stabili\* OR condens\* OR graft\* OR allograft\* OR autograft\* OR rod\* OR screw\* OR instrumentat\* OR transvert\* OR "trans vert\*" OR "trans artic\*" OR transartic\*)) OR ((MH "Spinal Fusion") AND ((posterior OR postero\* OR dorso\* OR dorsal) N9 (lumbar OR l1 OR l2 OR l3 OR l4 OR l5 OR lumbo\* OR thoracolumbar) ) ) OR plif OR plf) ) ) AND LA "English" NOT ( MH "Animals+" NOT MH "Humans" ) NOT ( ((MH "Adolescent") OR (MH "Child+") OR (MH "Infant+")) NOT (MH "Adult+")) )

Cochrane Library (via Wiley)

ID	Search	Hits
#1	(intrathecal OR subarachnoid OR subdural OR subpial OR "intra thecal" OR "sub arachnoid" OR "sub dural" OR "sub pial"):ab,kw,so,ti	
#2	MeSH descriptor: [Morphine] explode all trees	
#3	(actimorph OR actiskenan OR algedol OR amidiaz OR analfin OR analmorph OR anamorph OR anpec OR arymo OR aoramorph OR avinza OR biogenfine OR capros OR compensan OR contalgin OR depodur OR depolan OR dimorf OR docmorfine OR dolcontin OR "dolo moff" OR doloral OR dolq OR doltard OR duralgin OR duralmor OR duramor OR duramorph OR efemorf OR embeda OR epimorph OR ethirfin OR filnarine OR gno OR	

graten OR grumorph OR infumorph OR kadian OR kapabloc OR kapanol OR "la morph" OR loceptin OR malfin OR maracex OR maxidon OR "m beta" OR mcr OR "m dolor" OR meifeikang OR "m eslon" OR mir OR miro OR mitigo OR "m long" OR mogetic OR momex OR mongol OR morapid OR moraxen OR morcap OR morcontin OR moretal OR morf OR morfenil OR morfia OR morficontin OR morfiini OR morfiinihydrokloridi OR morfiinisulfaatti OR morfin OR morfina OR morfine OR morfinhydroklorid OR morfino OR morfinsulfat OR morfiny OR morin OR morixon OR morph OR morphabond OR morphanton OR morphes OR morphex OR morphgesic OR morphia OR morphin OR morphine OR morphinhydrochlorid OR morphini OR morphinium OR morphinsulfat OR morphinum OR morphitec OR morphitroy OR morphium OR morstel OR mos OR moscontin OR "m retard" OR ms?l OR ms?s OR "ms contin" OR "ms direct" OR msi OR msir OR "ms long" OR "ms mono" OR msp OR msr OR mst OR "m stada" OR "ms twicelon" OR mundidol OR mxl OR neocalmans OR noceptin OR oblioser OR oglos OR omorfate OR omorphate OR "oms concentrate" OR onkomorphin OR opso OR oramorph OR ordine OR pacif OR painbreak OR "p guard" OR "ra morph" OR relimal OR relipain OR repriadol OR rhotard OR rms OR roxanol OR samor OR sendolor OR sevredol OR "sevre long" OR "shi ni kang" OR skenan OR "slo morph" OR slovalgin OR "srm rhotard" OR statex OR stellaphine OR stellorphinad OR stellorphine OR substitol OR ticinan OR transmorphine OR "uni mist" OR vendal OR zomorph):ab,kw,so,ti

#4 (((posterior OR postero\* OR dorso\* OR dorsal) NEAR/10 (lumbar OR l1 OR l2 OR l3 OR l4 OR l5 OR lumbo\* OR thoracolumbar) NEAR/10 (fus\* OR arthrodes\* OR pseudoarth\* OR cage\* OR peek OR interbody OR "multi level" OR fixat\* OR stabili\* OR condens\* OR graft\* OR rod\* OR screw\* OR instrumentat\* OR transvert\* OR "trans vertebral" OR "trans articular" OR transartic\*)) OR plif OR plf):ab,kw,so,ti

#5 MeSH descriptor: [Spinal Fusion] explode all trees

#6 ((posterior OR postero\* OR dorso\* OR dorsal) NEAR/10 (lumbar OR l1 OR l2 OR l3 OR l4 OR l5 OR lumbo\* OR thoracolumbar) ):ab,kw,so,ti

#7 #1 AND (#2 OR #3) AND (#4 OR (#5 AND #6))

#8 ((infan\* OR neonat\* OR newborn\* OR infan\* OR child\* OR adolescen\*) NOT (adult\* OR elder\* OR aged)):kw

#9 #7 NOT #8

#10 language NEAR/5 english

#11 #9 AND #10

**Google Scholar** (Search run by "Publish or Perish" software. 1 obvious self-duplicate removed prior to addition to database ->209)

"posterior lumbar fusion" OR "posterior lumbar interbody fusion" OR plif OR PLF "intrathecal morphine" +lumbar +fusion +intrathecal