

# Asthma Living Guideline Search Narrative - Acute Asthma

10 March 2003

Searches were carried out by the HTBS. The strategies are included below.

## ***Searches were carried out on the key questions.***

Definitions and recognition of "uncontrolled asthma", "acute severe asthma", "life threatening asthma" and "near fatal asthma (NFA)".

- A. Management of acute asthma exacerbations in pre-school children: Infants 0-1 year - Children 1-5 years
- B. Management of acute asthma exacerbations in school children
- C. Management of acute asthma exacerbations in adults

## *IN EACH OF THESE:*

1. What is the role of clinical signs in severity assessment:- respiratory rate, heart rate, blood pressure, wheezing, silent chest, cyanosis?
2. Is there any evidence that blood pressure and/or systolic paradox are of value in assessing severity?
3. What is the role of objective measurements in severity assessment:- peak flow, FEV<sub>1</sub>, oxygen saturation, arterial blood gases?
4. Is there any evidence that FEV<sub>1</sub> is better than PEF?
5. Which set of normal values should we use for PEF and FEV<sub>1</sub>
6. Can acute deterioration be prevented? i.e. appropriate treatment 48 hours earlier; role of "At Risk" registers
7. What is the evidence for each of these in immediate treatment:- oxygen, steroids (dose, inhaled, oral or IV),  $\beta$ -agonists – salbutamol, terbutaline, adrenaline (MDI + spacer, nebulised, intermittent or continuous, should nebuliser be driven by oxygen or air pre hospital and in hospital, intravenous, long-acting) ipratropium, aminophylline, magnesium sulphate, heliox, leucotriene receptor antagonists
8. In continuation treatment who needs iv fluid replacement? duration of nebulised therapy? duration of oral prednisolone? optimisation of inhaled drug delivery, dose and device?
9. Are antibiotics necessary?
10. Are further investigations necessary including CXR, differential wbc, potassium, ECG?
11. Monitoring treatment. What is the evidence for the value of PEF, SaO<sub>2</sub> FEV<sub>1</sub>?
12. Deterioration in the home — action by patient including when to call for GP, when to self-admit?
13. Management in primary care — immediate action; subsequent management; criteria for admission? — action by GP?
14. Management in ambulance — immediate action, subsequent management — action by paramedics?
15. Management in A & E — immediate action; subsequent management; criteria for admission?
16. Management when admitted to hospital — immediate action; subsequent management?
17. What are the indications for intensive or high dependency care?
18. What are the indications for IPPV?
19. Is there any evidence relating to the use of NIPPV and severe asthma?
20. What are the criteria for discharge from hospital, discharge procedures?

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 1 of 13	Review date:

21. Follow up following recovery, role of asthma liaison nurse, role of home PEF charts, role of symptom diary?
22. Near fatal Asthma (NFA) or Severe Life Threatening Asthma (SLTA). Follow-up management. At Risk registers. Lessons from asthma death studies.
23. Patient Education and interventions by asthma nurses and pharmacists, and self management plans.
24. Implementation and monitoring of the Guidelines — evidence for efficacy and techniques of implementation eg asthma management proformas?

**Ovid multifile search: for Management of Care**

**MEDLINE: 1966 to February Week 4 2003**

**EMBASE: 1980 to 2003 Week 9**

**CINAHL: 1982 to February Week 4 2003**

1. uncontrolled asthma.tw. use mesz (43)
2. acute asthma.tw. use mesz (1619)
3. life threatening asthma.tw. use mesz (96)
4. near fatal asthma.tw. use mesz (90)
5. severe asthma.tw. use mesz (2108)
6. exp acute disease/ use mesz (123690)
7. exp asthma/ use mesz (60960)
8. 6 and 7 (2221)
9. exp status asthmaticus/ use mesz (752)
10. or/1-5 (3660)
11. or/8-10 (5281)
12. exp critical illness/ use mesz (4739)
13. 7 and 12 (10)
14. 11 or 13 (5284)
15. exp patient admission/ use mesz (10277)
16. self admitt\$.tw. use mesz (9803)
17. exp primary health care/ use mesz (34308)
18. exp hospitalization/ use mesz (79371)
19. hospitalization.tw. use mesz (31901)
20. exp family practice/ use mesz (40287)
21. exp physicians family/ use mesz (8452)
22. gp.tw. use mesz (10988)
23. general practitioner\$.tw. use mesz (17049)
24. exp emergency medical technicians/ use mesz (2567)
25. paramedic\$.tw. use mesz (2859)
26. exp ambulances/ use mesz (3638)
27. ambulance\$.tw. use mesz (3040)
28. exp emergency medicine/ use mesz (4690)
29. exp emergency medical services/ use mesz (44213)
30. (accident and emergency).tw. use mesz (3527)
31. exp intensive care/ use mesz (7870)
32. intensive care.tw. use mesz (35385)
33. exp intensive care units/ use mesz (26511)
34. high dependency care.tw. use mesz (47)
35. exp patient discharge/ use mesz (9393)
36. discharge.tw. use mesz (49141)
37. exp rehabilitation/ use mesz (131480)
38. recovery.tw. use mesz (141902)
39. exp nurse practitioners/ use mesz (9224)
40. nurse\$.tw. use mesz (101736)
41. exp peak expiratory flow rate/ use mesz (3864)
42. pef.tw. use mesz (1716)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 2 of 13	Review date:

43. symptom diary.tw. use mesz (102)
44. exp registries/ use mesz (19871)
45. register\$.tw. use mesz (37453)
46. exp risk factors/ use mesz (210802)
47. exp fatal outcome/ use mesz (19089)
48. exp patient education/ use mesz (35581)
49. patient\$ education.tw. use mesz (5386)
50. exp pharmacists/ use mesz (5196)
51. pharmacist\$.tw. use mesz (7906)
52. exp self care/ use mesz (17693)
53. self management.tw. use mesz (1513)
54. or/15-53 (951909)
55. 14 and 54 (1939)
56. uncontrolled asthma.tw. use emez (50)
57. acute asthma.tw. use emez (1514)
58. life threatening asthma.tw. use emez (93)
59. near fatal asthma.tw. use emez (80)
60. severe asthma.tw. use emez (1994)
61. exp acute disease/ use emez (5441)
62. exp asthma/ use emez (56340)
63. 61 and 62 (246)
64. exp asthmatic state/ use emez (745)
65. or/56-60 (3445)
66. or/63-65 (4137)
67. exp critical illness/ use emez (7888)
68. 62 and 67 (53)
69. 66 or 68 (4167)
70. exp hospital admission/ use emez (13450)
71. self admi\$.tw. use emez (8470)
72. exp primary health care/ use emez (18864)
73. exp hospitalization/ use emez (26011)
74. hospitali?ation.tw. use emez (26053)
75. exp general practice/ use emez (13685)
76. exp physician/ use emez (18969)
77. exp general practitioner/ use emez (14416)
78. gp.tw. use emez (9930)
79. general practitioner\$.tw. use emez (13579)
80. exp paramedical personnel/ use emez (32706)
81. paramedic\$.tw. use emez (1671)
82. exp ambulance/ use emez (1333)
83. ambulance\$.tw. use emez (1811)
84. exp emergency medicine/ use emez (8161)
85. exp emergency health service/ use emez (6028)
86. (accident and emergency).tw. use emez (2708)
87. exp intensive care/ use emez (110391)
88. intensive care.tw. use emez (28830)
89. exp intensive care unit/ use emez (9567)
90. high dependency care.tw. use emez (42)
91. exp hospital discharge/ use emez (6985)
92. discharge.tw. use emez (42161)
93. exp rehabilitation/ use emez (51532)
94. recovery.tw. use emez (124956)
95. exp nurse/ use emez (7725)
96. nurse\$.tw. use emez (23871)
97. exp peak expiratory flow rate/ use emez (3600)
98. pef.tw. use emez (1616)
99. symptom diary.tw. use emez (94)
100. exp register/ use emez (3967)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 3 of 13	Review date:

101. register\$.tw. use emez (24902)
102. exp risk factor/ use emez (109138)
103. exp fatality/ use emez (33355)
104. exp patient education/ use emez (13270)
105. patient\$ education.tw. use emez (3244)
106. exp pharmacist/ use emez (9909)
107. pharmacist\$.tw. use emez (8136)
108. exp self care/ use emez (7905)
109. self management.tw. use emez (1236)
110. or/70-109 (657512)
111. 69 and 110 (1848)
112. uncontrolled asthma.tw. use nursing (2)
113. acute asthma.tw. use nursing (278)
114. life threatening asthma.tw. use nursing (14)
115. near fatal asthma.tw. use nursing (8)
116. severe asthma.tw. use nursing (187)
117. acute disease/ use nursing (1568)
118. asthma/ use nursing (5071)
119. 117 and 118 (145)
120. status asthmaticus/ use nursing (62)
121. or/112-116 (450)
122. or/119-121 (535)
123. critical illness/ use nursing (614)
124. 118 and 123 (2)
125. 122 or 124 (536)
126. patient admission/ use nursing (1683)
127. self admi\$.tw. use nursing (1367)
128. primary health care/ use nursing (6980)
129. hospitalization/ use nursing (1949)
130. hospitali?ation.tw. use nursing (3387)
131. family practice/ use nursing (1912)
132. physicians, family/ use nursing (1341)
133. gp.tw. use nursing (824)
134. general practitioner\$.tw. use nursing (1410)
135. emergency medical technicians/ use nursing (2501)
136. paramedic\$.tw. use nursing (728)
137. ambulances/ use nursing (577)
138. ambulance\$.tw. use nursing (847)
139. emergency medicine/ use nursing (444)
140. emergency medical services/ use nursing (5220)
141. (accident and emergency).tw. use nursing (957)
142. critical care/ use nursing (2284)
143. intensive care.tw. use nursing (5218)
144. intensive care units/ use nursing (2710)
145. high dependency care.tw. use nursing (16)
146. patient discharge/ use nursing (2141)
147. discharge.tw. use nursing (6099)
148. rehabilitation/ use nursing (3857)
149. recovery.tw. use nursing (5760)
150. recovery/ use nursing (1945)
151. nurses/ use nursing (15955)
152. nurse\$.tw. use nursing (88661)
153. peak expiratory flow rate/ use nursing (292)
154. pef.tw. use nursing (89)
155. symptom diary.tw. use nursing (15)
156. diaries/ use nursing (1813)
157. register\$.tw. use nursing (6731)
158. risk factors/ use nursing (15652)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 4 of 13	Review date:

159. death/ use nursing (2885)
160. patient education/ use nursing (14848)
161. patient\$ education.tw. use nursing (2845)
162. pharmacists/ use nursing (583)
163. pharmacist\$.tw. use nursing (721)
164. self care/ use nursing (4374)
165. self management.tw. use nursing (711)
166. or/126-165 (174222)
167. 125 and 166 (242)
168. uncontrolled asthma.tw. use mesz (43)
169. acute asthma.tw. use mesz (1619)
170. life threatening asthma.tw. use mesz (96)
171. near fatal asthma.tw. use mesz (90)
172. severe asthma.tw. use mesz (2108)
173. exp acute disease/ use mesz (123690)
174. exp asthma/ use mesz (60960)
175. 173 and 174 (2221)
176. exp status asthmaticus/ use mesz (752)
177. or/168-172 (3660)
178. or/175-177 (5281)
179. exp critical illness/ use mesz (4739)
180. 174 and 179 (10)
181. 178 or 180 (5284)
182. exp respiratory function tests/ use mesz (128602)
183. test\$.tw. use mesz (965514)
184. 182 or 183 (1060828)
185. exp family practice/ use mesz (40287)
186. exp physicians, family/ use mesz (8452)
187. gp\$1.tw. use mesz (27673)
188. general practitioner\$.tw. use mesz (17049)
189. or/185-188 (77588)
190. 184 and 189 (7320)
191. deterioration.tw. use mesz (27852)
192. deteriorate\$.tw. use mesz (10747)
193. 191 or 192 (37196)
194. exp drug therapy/ use mesz (240789)
195. exp oxygen inhalation therapy/ use mesz (14261)
196. exp physical therapy techniques/ use mesz (90274)
197. exp respiratory therapy/ use mesz (51961)
198. exp therapeutics/ use mesz (1490449)
199. or/194-198 (1490449)
200. exp primary health care/ use mesz (34308)
201. primary healthcare.tw. use mesz (268)
202. primary care.tw. use mesz (24582)
203. or/200-202 (48559)
204. 199 and 203 (11142)
205. exp self administration/ use mesz (4708)
206. self administ\$.tw. use mesz (9761)
207. follow up\$.tw. use mesz (2024)
208. exp patient discharge/ use mesz (9393)
209. exp "referral and consultation"/ use mesz (32496)
210. referral\$.tw. use mesz (24754)
211. or/205-210 (72858)
212. 190 or 193 or 204 or 211 (125535)
213. 181 and 212 (277)
214. uncontrolled asthma.tw. use emez (50)
215. acute asthma.tw. use emez (1514)
216. life threatening asthma.tw. use emez (93)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 5 of 13	Review date:

- 217. near fatal asthma.tw. use emez (80)
- 218. severe asthma.tw. use emez (1994)
- 219. exp acute disease/ use emez (5441)
- 220. exp asthma/ use emez (56340)
- 221. 219 and 220 (246)
- 222. exp asthmatic state/ use emez (745)
- 223. or/214-218 (3445)
- 224. or/221-223 (4137)
- 225. exp critical illness/ use emez (7888)
- 226. 220 and 225 (53)
- 227. 224 or 226 (4167)
- 228. exp lung function test/ use emez (14663)
- 229. test\$.tw. use emez (784332)
- 230. 228 or 229 (793227)
- 231. exp general practice/ use emez (13685)
- 232. exp general practitioner/ use emez (14416)
- 233. gp\$.tw. use emez (41657)
- 234. general practitioner\$.tw. use emez (13579)
- 235. or/231-234 (68141)
- 236. 230 and 235 (8123)
- 237. exp deterioration/ use emez (1889)
- 238. deterioration.tw. use emez (24707)
- 239. deteriorate\$.tw. use emez (9446)
- 240. or/237-239 (33497)
- 241. exp drug therapy/ use emez (539202)
- 242. exp oxygen therapy/ use emez (6942)
- 243. exp artificial ventilation/ use emez (30241)
- 244. exp therapy/ use emez (1752211)
- 245. or/241-244 (1752211)
- 246. exp primary medical care/ use emez (12790)
- 247. primary healthcare.tw. use emez (210)
- 248. primary care.tw. use emez (17663)
- 249. or/246-248 (22355)
- 250. 245 and 249 (8673)
- 251. exp drug self administration/ use emez (1158)
- 252. self administ\$.tw. use emez (8437)
- 253. follow up.tw. use emez (230079)
- 254. patient discharge\$.tw. use emez (1775)
- 255. exp patient referral/ use emez (10025)
- 256. referral\$.tw. use emez (19921)
- 257. or/251-256 (261294)
- 258. 236 or 240 or 250 or 257 (303472)
- 259. 227 and 258 (383)
- 260. Randomized Controlled Trials/ use mesz (26862)
- 261. randomized controlled trial.pt. use mesz (170324)
- 262. Random Allocation/ use mesz (47362)
- 263. Double-Blind Method/ use mesz (72058)
- 264. Single-Blind Method/ use mesz (7000)
- 265. clinical trial.pt. use mesz (349153)
- 266. exp Clinical Trials/ use mesz (141141)
- 267. or/260-266 (441315)
- 268. (clinic\$ adj trial\$1).tw. use mesz (68122)
- 269. ((singl\$ or doubl\$ or treb\$ or tripl\$) adj (blind\$3 or mask\$3)).tw. use mesz (68761)
- 270. PLACEBOS/ use mesz (22286)
- 271. placebo\$.tw. use mesz (76244)
- 272. randomly allocated.tw. use mesz (6963)
- 273. (allocated adj2 random).tw. use mesz (598)
- 274. or/268-273 (177074)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 6 of 13	Review date:

275. 267 or 274 (485344)  
276. case report.tw. use mesz (91295)  
277. letter.pt. use mesz (493144)  
278. historical article.pt. use mesz (200677)  
279. review of reported cases.pt. use mesz (46403)  
280. review, multicase.pt. use mesz (7240)  
281. or/276-280 (823170)  
282. 275 not 281 (469013)  
283. Clinical Trial/ use emez (254783)  
284. Randomized Controlled Trial/ use emez (72245)  
285. exp RANDOMIZATION/ use emez (5640)  
286. Single Blind Procedure/ use emez (4054)  
287. Double Blind Procedure/ use emez (46826)  
288. Crossover Procedure/ use emez (13321)  
289. PLACEBO/ use emez (61918)  
290. randomi?ed controlled trial\$.tw. use emez (11213)  
291. rct.tw. use emez (732)  
292. random allocation.tw. use emez (440)  
293. randomly allocated.tw. use emez (6542)  
294. allocated randomly.tw. use emez (1067)  
295. (allocated adj2 random).tw. use emez (542)  
296. single blind\$.tw. use emez (4977)  
297. double blind\$.tw. use emez (60122)  
298. ((treble or triple) adj blind\$.tw. use emez (81)  
299. placebo\$.tw. use emez (73078)  
300. Prospective Study/ use emez (27898)  
301. or/283-300 (364320)  
302. Case Study/ use emez (3008)  
303. case report.tw. use emez (75023)  
304. abstract report/ use emez or letter/ use emez (319944)  
305. or/302-304 (396930)  
306. 301 not 305 (351819)  
307. exp Clinical Trials/ use nursing (16994)  
308. clinical trial.pt. use nursing (7401)  
309. (clinic\$ adj trial\$1).tw. use nursing (4173)  
310. ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj (blind\$3 or mask\$3)).tw. use nursing (2414)  
311. randomi?ed control\$ trial\$.tw. use nursing (3201)  
312. Random Assignment/ use nursing (5512)  
313. random\$ allocat\$.tw. use nursing (537)  
314. placebo\$.tw. use nursing (3361)  
315. placebos/ use nursing (1716)  
316. quantitative studies/ use nursing (1410)  
317. allocat\$ random\$.tw. use nursing (37)  
318. or/307-317 (24905)  
319. Epidemiologic studies/ use mesz (1571)  
320. exp case control studies/ use mesz (223004)  
321. exp cohort studies/ use mesz (448672)  
322. Case control.tw. use mesz (23436)  
323. (cohort adj (study or studies)).tw. use mesz (15313)  
324. Cohort analy\$.tw. use mesz (1099)  
325. (Follow up adj (study or studies)).tw. use mesz (20638)  
326. (observational adj (study or studies)).tw. use mesz (6399)  
327. Longitudinal.tw. use mesz (50394)  
328. Retrospective.tw. use mesz (85754)  
329. Cross sectional.tw. use mesz (40003)  
330. Cross-sectional studies/ use mesz (45377)  
331. or/319-330 (741466)  
332. Clinical study/ use emez (8631)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 7 of 13	Review date:

- 333. Case control study/ use emez (7834)
- 334. Family study/ use emez (5253)
- 335. Longitudinal study/ use emez (6742)
- 336. Retrospective study/ use emez (33521)
- 337. Prospective study/ use emez (27898)
- 338. Randomized controlled trials/ use emez (72245)
- 339. 337 not 338 (24630)
- 340. Cohort analysis/ use emez (13632)
- 341. (Cohort adj (study or studies)).tw. use emez (14205)
- 342. (Case control adj (study or studies)).tw. use emez (18043)
- 343. (follow up adj (study or studies)).tw. use emez (16250)
- 344. (observational adj (study or studies)).tw. use emez (6047)
- 345. (epidemiologic\$ adj (study or studies)).tw. use emez (21544)
- 346. (cross sectional adj (study or studies)).tw. use emez (10482)
- 347. or/332-336,339-346 (161538)
- 348. 55 and 282 (501)
- 349. 111 and 306 (485)
- 350. 167 and 318 (84)
- 351. 213 and (282 or 331) (121)
- 352. 259 and (306 or 347) (140)
- 353. or/348-352 (1207)
- 354. limit 353 to yr=2001-2004 (306)
- 355. remove duplicates from 354 (246)

**Ovid multifile search: Age Group Searches  
MEDLINE: 1966 to February Week 4 2003  
EMBASE: 1980 to 2003 Week 9**

Database: EMBASE, MEDLINE  
Search Strategy:

- 
- 1 uncontrolled asthma.tw. (93)
  - 2 acute asthma.tw. (3133)
  - 3 life threatening asthma.tw. (189)
  - 4 near fatal asthma.tw. (170)
  - 5 severe asthma.tw. (4102)
  - 6 exp acute disease/ use mesz (123690)
  - 7 exp asthma/ use mesz (60960)
  - 8 6 and 7 (2221)
  - 9 exp status asthmaticus/ use mesz (752)
  - 10 or/1-5 (7105)
  - 11 or/8-10 (8726)
  - 12 exp critical illness/ use mesz (4739)
  - 13 7 and 12 (10)
  - 14 11 or 13 (8729)
  - 15 respiratory rate.tw. (8925)
  - 16 exp heart rate/ use mesz (100899)
  - 17 exp blood pressure/ use mesz (169528)
  - 18 blood pressure.tw. (221509)
  - 19 exp respiratory sounds/ use mesz (4713)
  - 20 wheez\$.tw. (8611)
  - 21 silent chest.tw. (7)
  - 22 exp cyanosis/ use mesz (2670)
  - 23 cyanosis.tw. (4231)
  - 24 systolic paradox.tw. (4)
  - 25 exp ventricular dysfunction/ use mesz (6155)
  - 26 exp heart aneurysm/ use mesz (4664)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 8 of 13	Review date:

27 exp peak expiratory flow rate/ use mesz (3864)  
 28 peak flow\$1.tw. (6189)  
 29 exp forced expiratory volume/ use mesz (11382)  
 30 fev?.tw. (21293)  
 31 oxygen saturation.tw. (14736)  
 32 exp blood gas analysis/ use mesz (19441)  
 33 arterial blood gas\$2.tw. (9209)  
 34 pef.tw. (3332)  
 35 or/15-34 (470050)  
 36 exp treatment outcome/ use mesz (157196)  
 37 deterioration.tw. (52559)  
 38 exp registries/ use mesz (19871)  
 39 register\$1.tw. (20907)  
 40 exp dose-response relationship, drug/ use mesz (187140)  
 41 exp drug administration routes/ use mesz (312962)  
 42 exp "nebulizers and vaporizers"/ use mesz (4244)  
 43 inhaler\$.tw. (6053)  
 44 bronchodilator\$.tw. (11361)  
 45 exp time factors/ use mesz (599254)  
 46 nebuli?ed therapy.tw. (61)  
 47 or/36-46 (1241131)  
 48 exp oxygen/ use mesz (85713)  
 49 exp steroids/ use mesz (448339)  
 50 steroid\$.tw. (186998)  
 51 oxygen\$.tw. (299692)  
 52 (beta agonist\$ or beta-agonist\$.tw. (5647)  
 53 exp adrenergic beta-agonists/ use mesz (83217)  
 54 exp albuterol/ use mesz (5642)  
 55 salbutamol.tw. (8590)  
 56 exp terbutaline/ use mesz (2480)  
 57 terbutaline.tw. (4774)  
 58 exp epinephrine/ use mesz (91873)  
 59 exp ipratropium/ use mesz (1324)  
 60 ipratropium.tw. (2487)  
 61 exp aminophylline/ use mesz (3361)  
 62 aminophylline.tw. (5146)  
 63 exp magnesium sulfate/ use mesz (2728)  
 64 magnesium sulphate.tw. (1009)  
 65 magnesium sulfate.tw. (2502)  
 66 heliox.tw. (428)  
 67 exp leukotriene antagonists/ use mesz (1003)  
 68 exp antibiotics/ use mesz (364729)  
 69 antibiotic\$.tw. (204411)  
 70 exp radiography, thoracic/ use mesz (17191)  
 71 chest radiograph\$.tw. (16772)  
 72 cxr.tw. (615)  
 73 exp leukocytes/ use mesz (404317)  
 74 white blood cell\$.tw. (17887)  
 75 wbc.tw. (10157)  
 76 exp potassium/ use mesz (75211)  
 77 potassium.tw. (113301)  
 78 ecg.tw. (44843)  
 79 exp electrocardiography/ use mesz (114553)  
 80 sao2.tw. (3103)  
 81 ippv.tw. (966)  
 82 exp intermittent positive-pressure ventilation/ use mesz (1581)  
 83 nippv.tw. (289)  
 84 exp prednisolone/ use mesz (28038)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 9 of 13	Review date:

85 adrenalin\$1.tw. (22466)  
 86 or/48-85 (2186734)  
 87 35 or 47 or 86 (3430962)  
 88 14 and 87 (5475)  
 89 uncontrolled asthma.tw. (93)  
 90 acute asthma.tw. (3133)  
 91 life threatening asthma.tw. (189)  
 92 near fatal asthma.tw. (170)  
 93 severe asthma.tw. (4102)  
 94 exp acute disease/ use emez (5441)  
 95 exp asthma/ use emez (56340)  
 96 94 and 95 (246)  
 97 exp asthmatic state/ use emez (745)  
 98 or/89-93 (7105)  
 99 or/96-98 (7797)  
 100 exp critical illness/ use emez (7888)  
 101 95 and 100 (53)  
 102 99 or 101 (7827)  
 103 respiratory rate.tw. (8925)  
 104 exp breathing rate/ use emez (5098)  
 105 exp heart rate/ use emez (57118)  
 106 exp blood pressure/ use emez (116852)  
 107 blood pressure.tw. (221509)  
 108 exp wheezing/ use emez (3323)  
 109 wheez\$.tw. (8611)  
 110 silent chest.tw. (7)  
 111 exp cyanosis/ use emez (2543)  
 112 cyanosis.tw. (4231)  
 113 systolic paradox.tw. (4)  
 114 exp heart ventricle function/ use emez (2003)  
 115 exp heart aneurysm/ use emez (2513)  
 116 exp peak expiratory flow/ use emez (3600)  
 117 peak flow\$1.tw. (6189)  
 118 exp forced expiratory volume/ use emez (10849)  
 119 fev?.tw. (21293)  
 120 exp oxygen saturation/ use emez (5655)  
 121 oxygen saturation.tw. (14736)  
 122 exp blood gas analysis/ use emez (4270)  
 123 arterial blood gas\$2.tw. (9209)  
 124 exp arterial gas/ use emez (2523)  
 125 pef.tw. (3332)  
 126 or/103-125 (388083)  
 127 exp treatment outcome/ use emez (169812)  
 128 exp deterioration/ use emez (1889)  
 129 deterioration.tw. (52559)  
 130 exp register/ use emez (3967)  
 131 register\$1.tw. (20907)  
 132 exp dose response/ use emez (155566)  
 133 exp drug administration route/ use emez (756249)  
 134 exp nebulizer/ use emez (1637)  
 135 exp inhaler/ use emez (2154)  
 136 inhaler\$.tw. (6053)  
 137 exp time/ use emez (42438)  
 138 bronchodilator\$.tw. (11361)  
 139 nebuli?ed therapy.tw. (61)  
 140 or/127-139 (1131181)  
 141 exp oxygen/ use emez (30180)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 10 of 13	Review date:

142 exp steroid/ use emez (250458)  
 143 steroid\$.tw. (186998)  
 144 oxygen\$.tw. (299692)  
 145 (beta agonist\$ or beta-agonist\$.tw. (5647)  
 146 exp adrenergic receptor stimulating agent/ use emez (185878)  
 147 exp salbutamol/ use emez (13424)  
 148 salbutamol.tw. (8590)  
 149 exp terbutaline/ use emez (6524)  
 150 terbutaline.tw. (4774)  
 151 exp adrenalin/ use emez (37405)  
 152 adrenalin\$.tw. (22466)  
 153 exp ipratropium bromide/ use emez (4481)  
 154 ipratropium.tw. (2487)  
 155 exp aminophylline/ use emez (7184)  
 156 aminophylline.tw. (5146)  
 157 exp magnesium sulfate/ use emez (4240)  
 158 magnesium sulphate.tw. (1009)  
 159 magnesium sulfate.tw. (2502)  
 160 heliox.tw. (428)  
 161 exp heliox/ use emez (163)  
 162 exp leukotriene receptor blocking agent/ use emez (4700)  
 163 exp antibiotic agent/ use emez (359877)  
 164 antibiotic\$.tw. (204411)  
 165 exp thorax radiography/ use emez (28397)  
 166 chest radiograph\$.tw. (16772)  
 167 cxr.tw. (615)  
 168 exp leukocyte/ use emez (276477)  
 169 white blood cell\$.tw. (17887)  
 170 wbc.tw. (10157)  
 171 exp potassium/ use emez (22581)  
 172 potassium.tw. (113301)  
 173 ecg.tw. (44843)  
 174 exp electrocardiography/ use emez (27691)  
 175 sao2.tw. (3103)  
 176 ippv.tw. (966)  
 177 exp intermittent positive pressure ventilation/ use emez (902)  
 178 nippv.tw. (289)  
 179 exp prednisolone/ use emez (33130)  
 180 or/141-179 (1830333)  
 181 126 or 140 or 180 (2863355)  
 182 102 and 181 (5350)  
 183 Clinical Trial/ use emez (254783)  
 184 Randomized Controlled Trial/ use emez (72245)  
 185 exp RANDOMIZATION/ use emez (5640)  
 186 Single Blind Procedure/ use emez (4054)  
 187 Double Blind Procedure/ use emez (46826)  
 188 Crossover Procedure/ use emez (13321)  
 189 PLACEBO/ use emez (61918)  
 190 randomi?ed controlled trial\$.tw. use emez (11213)  
 191 rct.tw. use emez (732)  
 192 random allocation.tw. use emez (440)  
 193 randomly allocated.tw. use emez (6542)  
 194 allocated randomly.tw. use emez (1067)  
 195 (allocated adj2 random).tw. use emez (542)  
 196 single blind\$.tw. use emez (4977)  
 197 double blind\$.tw. use emez (60122)  
 198 ((treble or triple) adj blind\$.tw. use emez (81)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 11 of 13	Review date:

199 placebo\$.tw. use emez (73078)  
 200 Prospective Study/ use emez (27898)  
 201 or/183-200 (364320)  
 202 Case Study/ use emez (3008)  
 203 case report.tw. use emez (75023)  
 204 abstract report/ use emez or letter/ use emez (319944)  
 205 or/202-204 (396930)  
 206 201 not 205 (351819)  
 207 Randomized Controlled Trials/ use mesz (26862)  
 208 randomized controlled trial.pt. use mesz (170324)  
 209 Random Allocation/ use mesz (47362)  
 210 Double-Blind Method/ use mesz (72058)  
 211 Single-Blind Method/ use mesz (7000)  
 212 clinical trial.pt. use mesz (349153)  
 213 exp Clinical Trials/ use mesz (141141)  
 214 or/207-213 (441315)  
 215 (clinic\$ adj trial\$1).tw. use mesz (68122)  
 216 ((singl\$ or doubl\$ or treb\$ or tripl\$) adj (blind\$3 or mask\$3)).tw. use mesz (68761)  
 217 PLACEBOS/ use mesz (22286)  
 218 placebo\$.tw. use mesz (76244)  
 219 randomly allocated.tw. use mesz (6963)  
 220 (allocated adj2 random).tw. use mesz (598)  
 221 or/215-220 (177074)  
 222 214 or 221 (485344)  
 223 case report.tw. use mesz (91295)  
 224 letter.pt. use mesz (493144)  
 225 historical article.pt. use mesz (200677)  
 226 review of reported cases.pt. use mesz (46403)  
 227 review, multicase.pt. use mesz (7240)  
 228 or/223-227 (823170)  
 229 222 not 228 (469013)  
 230 88 and 229 (943)  
 231 182 and 206 (895)  
 232 limit 230 to (infant < 1 to 23 months > or newborn infant < birth to 1 month > or preschool child < 2 to 5 years >) [Limit not valid in: EMBASE; records were retained] (184)  
 233 limit 231 to (infant < to one year > or preschool child < 1 to 6 years >) [Limit not valid in: MEDLINE; records were retained] (48)  
 234 child\$3.tw. (705806)  
 235 infant\$3.tw. (276921)  
 236 paediatric\$.tw. (26674)  
 237 pediatric\$.tw. (123848)  
 238 or/234-237 (985327)  
 239 230 and 238 (313)  
 240 231 and 238 (277)  
 241 or/232-233,239-240 (614)  
 242 remove duplicates from 241 (486)  
 243 limit 230 to (adolescent < 13 to 18 years > or child < 6 to 12 years >) [Limit not valid in: EMBASE; records were retained] (505)  
 244 limit 231 to (adolescent < 13 to 17 years > or child < unspecified age > or school child < 7 to 12 years >) [Limit not valid in: MEDLINE; records were retained] (316)  
 245 or/239-240,243-244 (913)  
 246 remove duplicates from 245 (755)  
 247 limit 230 to (adult < 19 to 44 years > or "aged < 80 and over >" or "all aged < 65 and over >" or middle age < 45 to 64 years >) [Limit not valid in: EMBASE; records were retained] (575)  
 248 limit 231 to (adult < 18 to 64 years > or aged < 65+ years >) [Limit not valid in: MEDLINE; records were retained] (432)  
 249 or/247-248 (1007)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 12 of 13	Review date:

250 remove duplicates from 249 (818)  
251 limit 242 to yr=2001-2004 (113)  
252 limit 246 to yr=2001-2004 (163)  
253 limit 249 to yr=2001-2004 (204)  
254 from 251 keep 1-113 (113)  
255 from 252 keep 1-163 (163)  
256 from 253 keep 1-204 (204)

File name : SIGN101_2003_Acute_Asthma_search_narrative	Version 0.1	16/01/2012
Produced by:	Page 13 of 13	Review date: