

小儿基础重症支持(第二版)

Pediatric Fundamental Critical Care Medicine (Second Edition)



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Society of
Critical Care Medicine
The Intensive Care Professionals



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目 录

第一章	重症患儿评估	1
第二章	气道管理	25
第三章	儿童心脏骤停	46
第四章	儿童急性上呼吸道及下呼吸道疾病的诊断和管理	66
第五章	机械通气	101
第六章	休克的诊断与处理	120
第七章	急性感染	140
第八章	液体与电解质及神经内分泌代谢紊乱	168
第九章	儿童创伤	184
第十章	小儿烧伤	202
第十一章	非意外伤害的诊断与处理	214
第十二章	儿童应急准备	225
第十三章	儿童和青少年中毒的处理	236
第十四章	重症患儿的转运	248
第十五章	神经系统急症	262
第十六章	小儿先天性心脏病的管理	284
第十七章	血液肿瘤急诊和并发症	302
第十八章	急性肾损伤	325
第十九章	术后管理	340
第二十章	镇静、镇痛和神经肌肉阻滞剂	360
第二十一章	侵入性医疗器械	377
索 引		451

附录目录

附录一	儿科正常值	391
附录二	骨髓针留置	395
附录三	酸碱平衡和动脉血气分析	399
附录四	氧气输送设备	401
附录五	辅助气道装置	403
附录六	气管内插管	410
附录七	常用药物	414
附录八	困难气道处理流程	418
附录九	高级生命支持流程	419
附录十	除颤/电复律	427
附录十一	临时经皮心脏起搏器	430
附录十二	胸腔引流术	432
附录十三	中心静脉置管	440
附录十四	转运和创伤的交接	443
附录十五	儿童转运表格	444
附录十六	动脉置管术	445

第一章

重症患儿评估



目 标

- 复习儿童和成人间的解剖和生理差异。
- 应用 DIRECT 方法——评估、干预、重新评估、有效沟通和团队合作。
- 识别呼吸衰竭,描述不同类型休克的临床特点。
- 讨论辅助检查在儿童心肺评估中的作用。
- 解释如何对儿童的生理状态进行快速评估。
- 应用儿科早期预警评分(Pediatric early warning score, PEWS)系统地检测早期病情恶化情况。
- 讨论脓毒血症的早期识别和治疗。



病例分析

女婴,3月龄,由父母送来急诊室,1周前出现鼻腔充血、咳嗽、喘息、咳嗽后呕吐、液体摄入不足、呼吸急促及发热。到达急诊室时患儿生命体征显示:心率 182 次/min,呼吸 72 次/min,动脉血氧饱和度 87%,体温 101.7°F(38.7°C)。患儿烦躁、呻吟、呼吸急促,呼吸时伴有肋下和肋间凹陷。毛细血管再充盈时间延长 3s。急诊室医务人员利用能输送 45%氧气的文丘里面罩给予沙丁胺醇(舒喘灵)雾化吸入治疗,要求你参与协助治疗。

评估

- 根据儿科早期预警评分(PEWS)(见表 1-1)确认该患儿的生理状态如何?
- 最有可能的和最坏的可能诊断是什么?

干预

- 最直接的治疗策略是什么?

重新评估

- 目前的治疗策略有效吗?
- 患儿需要更多的沙丁胺醇(舒喘灵)雾化和(或)其他治疗措施吗?

有效沟通

- 当患儿病情发生变化时,谁来发现,又如何告知其他相关人员?
- 哪里是管理和照顾该患儿最好的场所?



团队合作

- 你打算怎样来实施这些治疗策略？
- 谁来做？做什么？什么时候做？

表 1-1		儿科早期预警评分(PEWS) ^a			
项 目	0	1	2	3	分 数
行为	活泼/适中	睡着	烦躁	嗜睡/意识模糊或对疼痛反应降低	
心血管	肤色红或毛细血管再充盈时间 1~2s	肤色苍白或灰暗或毛细血管再充盈时间 3s	肤色苍灰或发紫或毛细血管再充盈时间 4s 或心率较正常加快 20 次/min	肤色苍灰或发紫、花斑或毛细血管再充盈时间 >5s 或心率较正常加快 30 次/min 或心动过缓	
呼吸	在正常范围,没有吸气性凹陷	超过正常 10 次/min 或动用辅助呼吸肌或 $FiO_2 > 30\%$ 或氧流量 > 3L/min	超过正常 20 次/min 或有吸气性凹陷或 $FiO_2 > 40\%$ 或氧流量 > 6L/min	低于正常范围超过 5 次/min 伴有吸气性凹陷或呻吟或 $FiO_2 > 50\%$ 或氧流量 > 8L/min	
总分					

注:^a 评分从最严重的参数开始;需每 15 分钟做雾化(包括持续雾化)1 次或术后持续性呕吐者额外加 2 分;使用普通鼻导管时用氧流量来进行评分;使用高流量鼻导管时用吸入氧浓度来评分。

表 1-1		儿科早期预警评分(PEWS) ^a (续表)		
人群类别	年 龄	静息时心率(次/min)	静息时呼吸(次/min)	
新生儿	出生~1 月龄	100~180	40~60	
婴儿	1~12 月龄	100~180	35~40	
幼儿	13 月龄~3 岁	70~110	25~30	
学龄前儿童	4~6 岁	70~110	21~23	
学龄儿童	7~12 岁	70~110	19~21	
青少年	13~19 岁	55~90	16~18	

注:转载许可, © 2010 American Academy of Pediatrics. Akre M, Finkelstein M, Erickson M, et al. Sensitivity of the pediatric early warning score to identify patient deterioration. *Pediatrics*, 2010,125:e763-e769.

一、引言

本章将讨论儿童与成人相比在成熟度、解剖、生理上的差异以及对休克、创伤、疾病的不同反应。本章还引入了重要的儿科基础重症支持(Pediatric Fundamental Critical Care Support, PF-CCS)的课程学习和管理理念,即 DIRECT:观测(Detection,D);干预(Intervene,I);重新评估(Re-appraise,R);有效沟通(Effective communication,E);团队合作(Teamwork,T)(见图 1-1)。

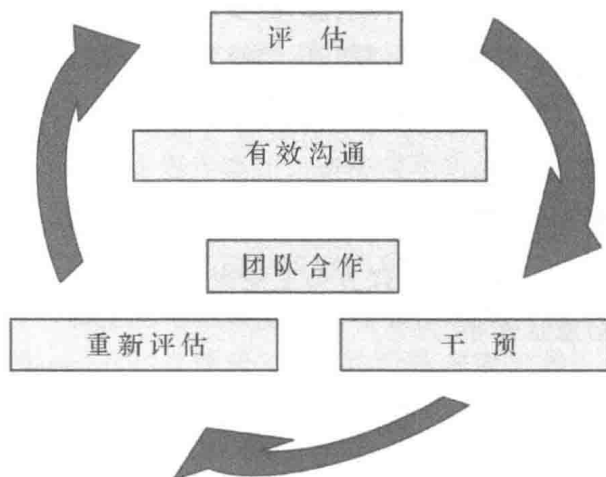


图 1-1 DIRECT 方法

观测:利用病史、体格检查和 PEWS 系统来提醒重症监护团队注意儿童的生理状态。这些项目用来指导合理的实验室和影像学评估,以便确立一个初步/推测诊断,鉴别诊断,最坏的可能诊断。

干预:这是治疗疾病、减少伤害的工作流程,牢记重症监护格言,尽量降低病死率及死亡率。

重新评估:确保根据疾病和(或)伤害的严重程度进行的治疗是恰当的。

有效沟通:医疗界伤害和死亡的最大原因是由于沟通错误。患儿病情越复杂,团队成员之间观点看法的交流就越重要,那样才能专业而迅速地完成任务。

团队合作:当多学科训练有素的医疗团队能很好地协同工作,以满足重症患儿的治疗需要时,患儿最受益。

在所给的病例中,患儿的 PEWS 为 5 分,即:烦躁=2 分;毛细血管再充盈时间 3s=1 分;用 45%氧气和呼吸频率超过正常 20 次/min=2 分。PEWS 的临界值定义为>4,有利于早期识别生理状况的恶化。团队必须认识到这一点,通过提供呼吸支持,并不断重新评估患儿对治疗的反应,如对静脉注射(IV)液体和沙丁胺醇(舒喘灵)雾化吸入治疗的反应。这需要团队成员间的相互沟通和协作来获得最佳的临床效果。

二、常规检查

常规检查是体格检查的最重要部分,在看见患儿时就开始,很好地总结及回答了一个既简单又基本的问题:“这个小孩生病了吗?”PEWS 专注于儿科患儿的行为、心血管和呼吸状况,加快了评估过程。因为年幼的患儿无法用语言来表达一些具体的病痛,医疗服务提供者除了从父母或监护人那里取得信息外,尚需依靠一般和特殊的检查来评估患儿。尽管许多疾病的早期征象很微妙、难发现,但早期识别能增加干预成功的可能性,而且可以避免许多更严重的后果。如果医疗服务提供者一开始就错过某些不典型的体征,就有可能面



儿童的一般表现可以帮助观察者立即判断出是否存在严重疾病。

