现代
静脉治疗手册

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主　编　马　兵　孙　云　江智霞
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内容提要

本书包括经静脉液体治疗各个环节的细节、要义和要点，并在操作技术方面进行深入阐述。因其实用性和简洁性，本书定能成为临床护理人员好朋友，可作为临床工作时的重要参考手册，也是学习和了解美国临床护理和护理英语的好帮手。

本书适合高级护理人员和有志于到海外就业的护理人员阅读。

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A handbook for nurses and other allied health personnel

by William J. Kurdi, RN, Ph D

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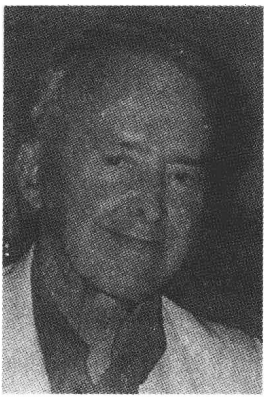
TO ALL THE PATIENTS WHO HAVE RECEIVED IV THERAPY AND ALL THE NURSES WHO HAVE ADMINISTERED IV THERAPY.

GOD BLESS YOU ALL.



William J. Kurdi RN PhD

To all the patients Who have received IV therapy and all the nurses who have administered IV therapy.

God bless you all.

Dr. William J. Kurdi

谨以此书献给所有接静脉治疗的患者及所有实施静脉治疗的护士。

愿上帝与你们同在！

威廉·凯迪

前　言

本书系威廉·凯迪博士多次再版的著作，因其实用性和简洁性而受护士们欢迎。经由马兵博士慧眼引荐译来，其间因主译者所担其他工作任务繁重以及原版图书的印刷品之图片质量欠佳等原因，出版计划一再后延。经原著者、主译者和责任编辑的努力，今得以完成中英对照版本的出版。

本书顺应的了当前国内护士往欧美就业的风潮，向他们提供了原汁原味的美国经典教材和原汁原味的美国临床护理用英语，并有与之相对应的中文译文进行参考。

本书的缺点是图片质量欠佳，主要是因原书多次再版，每次均未对图片进行替换。但好在图片本身旨在示意，并经责任编辑的尽最大努力，现尚堪使用。

编　者

2011.12

主译者简介

马兵 男，40岁，医学博士。副教授，副主任医师，硕士研究生导师。毕业于第三军医大学西南医院烧伤研究所，主要从事创面修复研究。目前担任国家自然科学基金项目评审专家、四川省学术与技术带头人后备人选、四川省卫生厅学术和技术带头人后备人选、四川省科技项目评审专家库成员、重庆市科委自然科学基金项目评审专家、《中国医学文摘耳鼻咽喉科学》、《中华损伤与修复杂志》、《中华烧伤外科杂志》编委、欧洲组织修复与创面愈合协会会员、四川省医学会医学美学与美容专业委员会委员、四川省医学会烧伤整形外科专业委员会委员、成都市医学会理事。发表论文20余篇（SCI论文2篇），参编专著2部。参加国际学术会议3次，英语大会发言1次。2008年作为主要成员成功申请四川省精品课程：外科手术学基础。作为主研人员参加国家973项目子课题1项；参加国家自然科学基金重大项目1项。主持国家自然科学基金2项，创伤、烧伤与复合伤研究国家重点实验室开放课题基金1项，四川省科技厅应用基础研究项目1项。2003年获得第八届“挑战杯”全国大学生课外学术科技作品竞赛特等奖，2003年军队科技进步二等奖1项，2004年荣获首届中国科技创新奖。2007年第四届中国科协期刊优秀学术论文奖一等奖。所在科室于2008年烧伤外科成为成都医学院重点建设学科，2009年成为四川省重点学科立项建设单位。

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IV Therapist and University Teacher

Licensed RN in California, New York.

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Modern Intravenous Therapy Procedures, English, Chinese, Korean
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1996, appointed to the California state board of registered nursing sunset continuing education advisory task force for reviewing continuing education regulation laws for RN's in California.

1999, Awarded the mamie kwoh wang-nurse visiting scholarship by the American buredu of medical advancement on China (ABMAC) to conduct IV therapy workshops for one month in Taiwan in Chiayi, Hualien, Taichung, Taipei, Taoyuan.

2003, Awarded a honorary Doctorate from the army southwest hospital, Chongqing, Peoples Republic of China.

目　　录

第一章 概 述

一、静脉治疗的发展历史

我能找到的用于研究的记录涉及一个发生于 1492 年的传闻，为了挽救教皇 Innocent 的生命，他接受了 3 个小男孩的输血。但是，有许多相互冲突的报告，无法确定他接受的血液到底是以静脉治疗的方式，还是以某种天然粗略的内服方式给予的。不用说，教皇和 3 个小伙子都死了。

William Harvey 被认为是在大约 1628 年发现血液循环的第一人。尽管在此之前从事输血研究的大有人在。1615 年，Andreas Libavuis 倡导用银质导管进行输血治疗。1628 年，意大利的 Giovanni Colle 也开始了同样的实验。1616—1628 年 William Harvey 一直在进行人体血液循环的演讲。于 1628 年，William Harvey 发表了他的理论。许多医学历史学家均认为这标志着现代静脉治疗的开端。

大约在 1660 年，以建筑伦敦 St. Paul's 大教堂而闻名于世的建筑师 Christopher Wren 爵士，与化学家 Robert Boyle 合作，发明了世界上第一个皮下注射用针头。Christopher 爵士让他的朋友相信，如果他能将空管插入一只动物的血管，那么他就可以将大量的药物直接注入血流中。据记载，这两人用一支鹅毛管和膀胱将鸦片经静脉注射入狗体内，首次完成了静脉注射。因此，可以说这是人类首次通过静脉注射给药以达到药物在全身产生药物效应的努力。换句话说，药物被直接注射进入血流。

1662 年，德国内科医师 Johann Majors 第一次在人身上成功进行了静脉给药的尝试。不用说，在人们能分离、纯化单一成分之前，这种成功机率等于零。若干年后，直到人们能分离、提纯药物后，这项治疗才取得了成功。妨碍静脉药物的另外一个主要因素在当时就是感染。因此，在早期进行静脉注射治疗的医疗活动中，许多病人都没有能够存活下来。

HISTORY OF INTRAVENOUS THERAPY

Available records I have researched concern a rumor that in 1492, pope Innocent received transfusions from three young boys, in an attempt to save his life. However, there are many conflicting reports concerning whether he actually did or did not receive the blood as an intravenous therapy, but that the blood was given internally, as a draft of some nature Needless to say, the Pope and the three boys died.

Willam Harvey is considered to be the discoverer of the circulation of blood, around 1628, although a number of men had been working on blood transfusions before that date. In 1615, Andreas Libavuls of Halle advocated the use of silver tubes, and was experimenting with the circulation of blood. Giovanni Colle did the same thing in Italy, in 1628. william Harvey gave lectures on the circulation of blood from 1616 to 1628. Then, in 1628, his theory was published, and is considered by most medical historians to be the beginning of modern day intravenous therapy.

About forty years later, around 1660, Sir Christopher Wren, famous architect of St. Paul's Cathedral in London, while working with a chemist by the name of Robert Boyle, produced the first hypodermic needle. Sir Christopher convinced his friend that if he could insert a hollow pipe in the blood vessel of an animal, he could inject drugs in large quantities directly into the blood stream. These two men are credited with giving the first intravenous injection of medication to a dog, using a quill and bladder. They injected Opium at this time. So we could say that this was the first time drugs were ever introduced into the vein to produce a systemic effect. In other words, the drug was given directly into the blood stream.

In 1662 the German physician Johann Majors made the first successful injection into a man. Needless to say, the degree of success was nil, primarily until we could isolate and purify individual compounds which was not accomplished until many year later. Another major deterrent to the administration of medication by vein was infection. So that most of the early experimental work which was done giving intravenous, the patient did not survive.

1665年，一只濒临死亡的动物接受另一只动物血液，进行输血治疗后，被成功地救治存活。这是一名伦敦的内科医师 Richard Lower 进行的实验。1667年，将一只小羊的血液向人进行静脉输入的实验第一次被详细地记录下来。法国路易十四时期的内科医师 John Baptiste Denis 将从羊羔体内的血液直接输入了一名15岁的巴黎男孩血管中。这个小孩很快就死于这次输血治疗。

Denis 随后进行了一系列静脉输血治疗，遗憾的是没有一个病人能够活下来。他被当时的医学会定为罪犯。医学会很有势力，影响法国议会并通过了一项与罗马类似的法律。这条法律再加上宗教领袖们的不赞同，减弱了当时医师们从事输血研究的热情。在此后的150年中，那些少数输血治疗的医疗活动都是在医生家庭的地下室内秘密地进行的。在欧洲，很长一段时间里，静脉输血治疗不仅被法律所禁止，而且还被教会禁止。

1818年，英国妇产科医师 James Blundel 重新开始了静脉输血治疗的实践。他的许多病人因为产后大出血而死亡，因此他又开始在病人身上进行输血治疗。他当时已证明了动物的血液是不能输注给人的，只有人类的血液才可以进行安全的临床输血治疗。但是，输血的并发症仍然存在。感染一直未能得到克服，而且当时人们还未发现血型。我们可以找到早期进行输血治疗后并发症的报道，包括酱油样尿液、皮肤黄疸、猝死。输血感染不仅发生于受血者，而且还出现在供血者身上。在当时，输血活动的供血者都是冒着因为使用未消毒的医疗器械而引起感染，甚至死亡的危险而进行的。这种状况一直到 Louis Pasteuer 和 John Lister 提出了抗菌原则后才得到完全改观。又一个输血障碍被克服了，但是仍然有许多病人死于输血。实际上，死亡的病人明显多于存活的病人。因为对于血型不合的现象尚未得到认识。

1831年西欧霍乱大流行期间，苏格兰的 Thomas Latta 医生开始使用盐水治疗霍乱所导致的顽固性腹泻。Latta 医生被认为是第一个采用合理静脉输液治疗方法的人

在1831—1851年的20年里，许多人进行了各种物质静脉治疗的动物实验，并取得了一定程度上的成功。糖、鸡蛋白、牛奶以及其他各种营养物质都被直接注射进入了动物静脉。

In 1665, an animal near death was restored by blood from another animal This experiment was performed by Richard Lower, a London physician. In 1667, the first well-documented transfusion from an animal, a lamb, to a human being was done. The lamb's blood was administered directly into the circulation of a fifteen year old boy, a Parisian, by John Baptiste Denis, who was a physician to Louis XIV. The boy died very quickly.

Denis attempted a number of other transfusions, but none of his patients survived, and he was charged with murder of the Medical Society at that time. They were very powerful and influenced the French Parliament to pass a similar lawa in Rome and this combined with disapproval by Church leaders, dampened any enthusiasm that physicians at that time might have had concerning working with blood transfusions. So history has it that for the next 150 year there were attempted were usually clandestine, and done in the basement of a physician's home. The problem was such that for years and years, in Europe, blood transfusions were not only forbidden by law, but also by the Church.

Then about 1818, Dr. James Blundel, an English obstetrician, revived the idea of giving blood transfusions. Many of his patients developed postpartum hemorrhages, and did not survive. He began again to give blood transfusions to his patients, but he proved that animal blood was unfit to give to man, and that only human blood was safe at that time. But still, complications persisted. Infections were present and there was no knowledge of blood groups. We have on record early experiments that described individuals after receiving blood transfusions as having black urine, yellow skins, and sudden deaths. Infections killed not only the recipients, but they also developed in the donor, so that anyone who donated blood this time took the great risk of dying also from the unsterile techniques that were used. This persisted the discovery of the principles of antisepsis by Louis Pasteur and John Lister were complete. Then another obstacle was overcome, but yet there were still many, many deaths—in fact, more deaths than survivals, because the incompatibility of blood was not yet understood.

During the great Cholera epidemics of 1831 in Western Europe, Dr Thomas Latta in Scotland used saline to treat the intractible diarrhea of Cholera. Dr. Latta might be considered as the first man to use intravenous therapy as a successful mode of what might be called rational intravenous therapy.

Over the next twenty years, between 1831 to 1851, there were many men experimenting with injection of various substances into animals. They did get a moderate degree of success. Some of the materials which they injected were sugar, egg white, milk and other nutrients directly into the veins of animals.