

*Counter-irritants.* In speaking of mustard, etc., in poultices, I have already mentioned some forms of counter-irritation. There are a few others that the physician who is called upon to treat children should bear in mind.

H. C. Wood strongly recommends the oil of amber as being especially valuable as a counter-irritant in the treatment of the *bronchitis* of young children, associated, as it often is, with marked nervous disturbance and tendency to collapse. The oil, diluted with from one to three parts of sweet oil, and applied to the chest as a sort of stupe, sometimes acts very happily in allaying nervousness as well as internal congestion.

For pertussis, among the thousand and one remedies, John M. Keating speaks well of counter-irritation as an important measure, and mentions croton oil, oil of amber, and oil of cloves, which may be mixed with olive oil, and rubbed on the chest three times a day, and the surface afterward covered with oiled silk. J. Lewis Smith also advises mild counter-irritation in pertussis. The same authority advises counter-irritation along the spine and nucha, after discontinuance of ice-bags in cerebro-spinal meningitis.

Dr. Faulkner, of Pittsburgh, advises as an efficient means of treatment in many cases of asthma, counter-irritation over both pneumogastrics with Churchill's tincture of iodine.

In tetanus infantum, Dr. Merriwether, of Alabama, says, if there is no improvement from the medicine which he orders, he applies a blister larger than a dollar, to the umbilicus, and with this treatment the child generally improves. Warm foot-baths and stimulating embrocations along the spine are proper adjuvants to the treatment. Trousseau sometimes used blisters to the legs in scarlatina dropsy with good effect in conjunction with hydragogue cathartics. Blisters are very seldom required in treating children, especially in the case of young or weakly children they should be used with extreme caution.—*Dr. F. H. Knickerbocker, in Archives of Pediatrics.*

## BISMUTH SUBNITRATE IN BURNS.

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**Burns** are among the most troublesome injuries the surgeon is called to attend. He has to exercise a degree of patience only equalled by the victim's pain. Nearly all the usual methods of treating burns locally are decidedly inefficient. About the only true principle advanced for centuries was, that air should be excluded from the burnt surface, and this no doubt was the suggestion of some suffering patient.

It is the usual custom in burns of the second, third, and fourth degree (and these constitute the largest class, and the varieties especially alluded to in this paper) to immediately smear the parts

with some substance, as flour, starch, or white lead. These dressings, by excluding air from the exposed nerve terminals, fulfill one indication of treatment, but in others utterly fail, and later do much harm. Suppuration occurs often as a result of the decomposition of the vegetable substances, and this together with the impediment to drainage favors very materially septic absorption.

In burns of much extent it becomes necessary to remove such dressings as early as the third day to prevent serious systemic symptoms; and now the real trouble comes. The pain inflicted in removing such a dressing, provided the burn is extensive, is simply appalling. I have observed it attended by not inconsiderable shock, even where the most careful precautions by way of soaking was practiced. It is generally customary after removing such a dressing as has been described to apply some oleaginous dressing either the old carron oil—linseed oil and lime water equal parts, or the more modern carbolized oil. Some have discarded the various powders and pastes and resort primarily to the carbolized oil.

This last has been my practice until recently. But the carbolized oil does not meet all the indications of treatment, and is I think much inferior either as a primary or secondary dressing to the subnitrate of bismuth. The principles involved in the treatment of burns does not materially differ from that in other open wounds. The application of principals in practice are somewhat modified by the peculiarities of the injury. The application of antiseptic methods to burns of great superficial extent is attended with considerable difficulty. However, patience and care with an anesthetic, if necessary, will accomplish much in this way.

The ideal dressing for a burn is the one that is thoroughly protective, hence comfortable, and one that can remain longest, viz., antiseptic. I think in the present state of our knowledge bismuth and absorbent cotton is the nearest approach to such a dressing.

*Mode of application.*—The parts should be as perfectly cleansed as possible with warm carbolized water on listerine. I usually puncture any large vesications in second degree burns. Then if the burn be small superficial extent powder it over with bismuth, over this a good thick layer of absorbent cotton, and over all a bandage. If the injury covers considerable extent, so as to render the too free use of bismuth dangerous, make a solution in water of the bismuth and paint it over the part. This last permits of a uniform distribution of a minimum quantity. I have used this dressing in several cases of burn, and in one extensive scald of the leg, second and third degree, and so far have not witnessed any evidence of bismuth poisoning.

The results have been very satisfactory, in two or three cases scarcely any suppuration occurring. I have not used it in burns involving as much as one-fourth of the surface of the body, but think with care it may be used safely. A dressing of this kind promotes to the greatest degree healing by