THE POWER OF TOUCH

By Diane Ackerman

I AM MASSAGING A TINY baby in a hospital in Miami. Its arms feel limp, like vinyl. Still too weak to roll over by itself, it can flail and fuss so well that the nurses have laid soft bolsters on its bed keep it from accidentally wriggling into a corner. Its torso looks as small as a deck of cards. That this baby boy lying on his tummy will one day play basketball in the Olympics, or become a heliarc welder or book passage on a low-orbital plane to Japan for a business meeting, is barely believable. Lying in his incubator, or isolette, as it's called, emphasizing the isolation of his life, he wears a plumage of wires—electrodes to chart his progress and sound an alarm if need be.

Retirees often volunteer to enter preemie wards late at night, when other people have families to tend or a 9-to-5 job to sleep toward. The babies don't care about the gender of those who cosset and cuddle them. They soak it up like the manna it is in their wilderness of uncertainty. Reaching carefully scrubbed, disinfected, warmed hands through the portholes of the incubator—with pangs of protectiveness—I touch the baby, and it's a little like reaching into a chrysalis.

This is the first of three daily touch sessions for him, and it may seem a shame to interrupt his thick, drug like sleep, but just by stroking him, I am performing a life-giving act.

Massaged babies gain weight much faster than unmassaged babies. They're more active, alert and responsive, better able to tolerate noise and emotionally more in control. As one psychologist explained in Science News in 1985, they're "better able to calm and console themselves." The same experiment revealed that, eight months later, the massaged preemies were bigger in general, with fewer physical problems.

In California, some doctors have been putting preemies on small waterbeds that gently sway, and it has produced infants who are less irritable, sleep better and are more alert and responsive. The touched infants, in these studies and in others, cried less, had better temperaments and so were more appealing to their parents— which is important, because the 7 percent of babies who are born prematurely figure disproportionately among those who are victims of child abuse. Children who are difficult to raise get abused more often. And people who aren't touched much as children don't touch much as adults, so the cycle continues.

A recent New York Times article on the critical role of touch in child development reported "psychological and physical stunting of infants deprived of physical contact, although otherwise fed and cared for," which was revealed by one researcher working with primates and others working with World War II orphans. "Premature infants who were massaged for 15 minutes three times a day gained weight 47 percent faster than others who were left alone in their incubators," said the article. "The massaged infants also showed signs that the nervous system was maturing more rapidly: They became more active. . . and more responsive to such things as a face or a rattle. . .Infants massaged were discharged from hospitals an average of six days earlier." When they were tested eight months later, the massaged infants did better in tests of mental and motor ability.

The key doctors cited were Saul Schanberg, a professor of pharmacology and psychiatry at Duke University, and Tiffany Field, a child psychologist doing touch experiments with babies at the University of Miami Medical School. The most startling discoveries about touch-deprivation in humans have come from her work in this preemie ward, where doctors, nurses, graduate students, new parents and volunteers busily tend rows of infants. Dr. Field's study includes a group of babies admitted, for various reasons, to intensive care. With 13,000 to 15,000 births a year at the hospital, they never lack for a steady supply of babies.

At one isolette, a young mother sits on a black kitchen chair by her son, reaches a hand in and gently strokes, whispering motherly nothings into his ear. Inside another isolette, a baby girl wearing a white nightie with pink hearts bursts into a classic, textbook wail. A multisyllabled" aw. . . " followed by a deep sigh simultaneously falls from my mouth, the mouth of a graduate assistant and a nurse, and we laugh. No human could hear that sweet, helpless, endearing cry and not be moved. It's all builtin.

A nurse turns a baby girl onto her tummy and begins a stim, as they call the massage, shorthand for stimulation. They use the word interchangeably as a verb or a noun. What old faces the preemies have! Changing expressions as they sleep, they seem to be rehearsing emotions. The nurse follows her massage schedule, stroking each part of the preemie six strokes a minute. The stimulation hasn't changed the baby's sleep patterns, but she has been gaining 8 grams more a day than babies who are not massaged. "There's nothing extra going into the babies," Field explains, "yet they're more active and gain weight faster; they become more responsive. It's amazing how much information is communicable in a touch."

In many experiments conducted all over the country, babies who were held more became more alert and developed better cognitive abilities years later. Babies who are not touched develop a strategy a little like the one you adopt on a sinking ship. First you get into a life raft and call for help. Baby animals call their mothers with a high-pitched cry. Then you take stock of your water and food, and try to conserve energy by cutting down on high-energy activities—such as growth, for instance.

"Touch is far more essential than our other senses," I recall Saul Schanberg saying when we spoke at a conference on touch in spring of 1989, a three-day exchange of ideas that brought together neurophysiologists, pediatricians, anthropologists, sociologists, psychologists and others interested in how touch and touch-deprivation affect the mind and body. In many ways, touch is difficult to research. Every other sense has a key organ to study; for touch that organ is the skin, and it stretches over the whole body.

Touch really is a combination of five experiences: touch, pressure, pain, heat and cold. The fingertips and tongue are much more sensitive than the back. Some parts of the body are ticklish, and others respond when we itch, shiver or raise gooseflesh. The hairiest parts of the body are generally the most sensitive, because there are many sense receptors at the base of each hair. In animals, from mice to lions, the whiskers around the mouth are extraordinarily sensitive; this is true of our body hairs to a lesser degree. But, in any case, the skin is also thinnest where there's hair.

Feeling doesn't take place in the topmost layer of skin, but in the second layer. The top layer of skin is dead, sloughs off easily and contributes to that ring around the bathtub. This is why safecrackers are sometimes shown sandpapering their fingertips, making the top layer of skin thinner so that the touch receptors will be closer to the surface.

Touch metaphors abound in our language. "For a while there, it was touch and go," we say of a crisis or precarious situation. We call our emotions "feelings," and we care most deeply when something touches us.

"The first sense to ignite, touch is often the last to burn out," writes Prof. Frederick Sachs in an article in The Sciences. "Long after our eyes betray us, our hands remain faithful to the world. . In describing such final departures, we often talk of losing touch."

Touch affects the whole organism, as well as its culture and the individuals with whom it comes in contact. "It's stronger than verbal or emotional contact," Dr. Schanberg explained, "and it affects damn near everything we do. No other sense can arouse you like touch. We always knew that, but we never realized that it was biologically driven."

"If touch didn't feel good, there'd be no species, parenthood and survival," he adds. "A mother wouldn't touch her baby in the right way unless she felt pleasure doing it. If we didn't like the feel of touching and patting each other, we wouldn't have had sex. Those animals who did more touching instinctively produced offspring which survived, and their genes were passed on, and the tendency to touch became even stronger. Although we tend to ignore touch, it's not only basic to our species, but the key to it."

All animals respond to being touched, stroked, poked in some way. And, in any case, life could not have evolved at all without touch—that is, without chemicals touching one another and forming liaisons. In the absence of touching and being touched, people of all ages can sicken and grow touch-starved.

Soon after we're born, though we can't see clearly or speak, we begin instinctively touching. Touch cells in the lips make nursing possible, clutch mechanisms in the hands begin to reach out for warmth. Among other things, touch teaches us the difference between I and other, that there can be someone outside of ourselves: the mother. Mothers and infants do massive amounts of touching. The first emotional comfort—touching and being touched by Mother—remains the ultimate memory of selfless love, which stays with us lifelong.

The little 3 pound universe named Geoffrey, whom I am stroking in long gentle caresses, has idly twisted his mouth and just as quickly untwisted it again. In other incubators around the room, other lives are stirring, other volunteers continue reaching in through portholes.

The policy with premature babies used to be not to disturb them any more than necessary, and they lived in a kind of isolation booth. But now the evidence about touch is so plentiful and eloquent that more hospitals are encouraging largescale touching. "Did you hug your child today?" some bumper stickers read. As it turns out, it's not just a casual if well intentioned question. Vitamin T, for Touch, seems to be as essential as sunlight.