Amputated the little finger and side part of a hand on a 15 year old boy and 2 - 4 on a 60 year old lady. She had maggots crawl out during prep and 1 during the operation.
Healing Hands for Haiti
Jaipur Foot

Jaipur Foot - $40.00

Prosthetic US – $12,000
<table>
<thead>
<tr>
<th>Discipline</th>
<th>Barrier</th>
<th>Criteria to solve barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics</td>
<td>Poverty</td>
<td>Extreme affordability (made from inexpensive materials)</td>
</tr>
<tr>
<td></td>
<td>Closed economy</td>
<td>Materials readily available in country</td>
</tr>
<tr>
<td></td>
<td>Lack of skilled labor</td>
<td>Simplified manufacturing product</td>
</tr>
<tr>
<td>Social Science</td>
<td>Local customs</td>
<td>Sitting crossed legged, squatting, walking bare-footed</td>
</tr>
<tr>
<td></td>
<td>Work environment</td>
<td>Must be sturdy</td>
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<tr>
<td></td>
<td>Need to work</td>
<td>Fitting done in one day</td>
</tr>
<tr>
<td>Business</td>
<td>Average income &lt; $2.00/day,</td>
<td>Low-cost, high-volume model</td>
</tr>
<tr>
<td></td>
<td>many people</td>
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<tr>
<td>Orthopedic/Engineering</td>
<td>Joint movement</td>
<td>Functional joint movements/fitting</td>
</tr>
</tbody>
</table>
The Problem: Congenital Hypothyroidism

- Affects 1:2800 live births in iodine sufficient regions
- If treated by day 28 of life: normal
- If not treated: progressive mental and physical retardation (cretinism).
- All newborns in the developed world are screened for congenital hypothyroidism by measuring serum TSH by day 3 of life
  - Requires a sophisticated and functioning infrastructure
- How can we screen for congenital hypothyroidism in underdeveloped parts of the world?
The solution: On-Site TSH Measurement

- Disposable, self-performing, semi-quantitative TSH assay
  - Similar to a home pregnancy test
  - 2 drops of blood
  - Results in 10 minutes
  - Does not require lab equipment, technical personnel
  - Used to screen for hypothyroidism and iodine deficiency in China, Philippines, Russia, Mongolia, Uganda, Congo.

Newborn TSH testing at a missionary health center in the Rwenzori Mountains, Uganda
Migration of Third World Technology to Developed Countries

- Robust and reliable technologies invariably find their way to the first world.

- ThyroChek\textsuperscript{R} is an on-site TSH assay originally developed to screen for congenital hypothyroidism in the 3\textsuperscript{rd} world and now commercially distributed throughout the 1\textsuperscript{st} world.
One of the greatest challenges to medicine today is to find a way to provide adequate medical and surgical care to the 85% of the world's population who now lack it.
“We stand on the precipice of a possibility not known to any of our ancestors – a world free of most of the suffering that has plagued humanity since the beginning of time. Our greatest moral question is whether we will make this imagined world a reality. The most important question we can ask at this juncture is, What stands in our way?”

Dan Pallotta, *Uncharitable*, p3
“I believe surgery is a humanitarian science, and if it is to be that, then the cutting edge of surgical progress must be made available and affordable to all people in all places.”

Where there is a will……
Travel Safety Tips

Murn, Mongolia

Forbidden Goods in Aircraft

- Ammunition, cartridge for weapons, pyrotechnic effect, electric igniter and wire.