Biomedical Instrumentation

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Figure 14.11 Microshock leakage-current pathways. Assume 100 μ A of leakage current from the power line to the instrument chassis, (a) Intact ground, and 99.8 μ A flows through the ground, (b) Broken ground, and 100 μ A flows through the heart, (c) Broken ground, and 100 μ A flows through the heart in the opposite direction.







| Electric Appliance | Chassis Leakage, µA | Patient-Lead Leakage, μA |
|---|------------------------|-----------------------------|
| Appliances not intended to contact patients | 100 | Not applicable |
| Appliances not intended to contact patients and single fault | 500 | Not applicable |
| Appliances with nonisolated patient leads | 100 | 10 |
| Appliances with <i>nonisolated</i> leads and single fault | 300 | 100 |
| Appliances with isolated patient leads | 100 | 10 |
| Appliances with isolated leads and single fault | 300 | 50 |



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