**Project Design Specifications**

**#43- Obstetric Belly Band**

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Client: Dr. John Webster

Advisor: Professor Willis Tompkins

**Function:**

Our mission is to redesign an obstetric belly band so that it has more rigidity in the transverse direction and will not roll up during use. Obstetric belly bands are placed around the abdomen, during delivery, to keep in place the tocometer and the ultrasound transducer.

**Client Requirements:**

- Cost effective
- Comfortable
- Effective

**Design Requirements:**

1) Physical and Operational Characteristics

a) *Performance requirements*

i. To hold the tocometer and ultrasound transducer in place during labor

ii. Breathable, durable fabric that ensures comfort for the user

ii. Must withstand a damp environment

iii. Must withstand stress and movement

iv. Can be adjusted to change location and angle

b) *Safety*

i. Can be easily removed

c) *Accuracy and Reliability*

i. Must secure instruments and allow for adjustments when necessary

d) *Life in Service*

i. 1-2 days

e) *Shelf Life*

i. 5-10 years

f) *Operating Environment*

i. Patient hospital rooms

g) *Ergonomics*

i. Easily placed

h) *Size*

i. Diameter: 8 inches

ii. Front height: 12 inches

iii. Back height: 5 inches

i) *Weight*

i. Less than 1 pound

j) *Materials*

i. No latex

ii. Elastic

iii. Breathable

iv. Quick drying

k) *Aesthetics*

i. Pleasing to the eye

2) Production Characteristics

a) *Quantity*

i. One model

b) *Target Product Cost*

i. under $5

3) Miscellaneous

a) *Standards and Specifications*

i. Must be tested to ensure patient comfort and product performance

b) *Customer*

i. Medical schools

ii. Hospitals

c) *Patient-related concerns*

i. Skin irritation

ii. Discomfort (bunching of fabric)

d) *Competition*

i. Feta Med

ii. Cooper Surgical

iii. Pedi Corporation