HUMAN INTERVENTION IN THE REARING OF AN INFANT BORNEAN ORANGUTAN (PONGO PYGMAEUS PYGMAEUS):
A FAILED ATTEMPT AT MATERNAL TRAINING OF A BIRTH MOTHER, THE SUBSEQUENT HUMAN HAND-REARING AND A SUCCESSFUL INTRODUCTION OF AN INFANT TO A SURROGATE ORANGUTAN MOTHER

By
Laura Laverick, Courtney Murray and James Sanford
Kansas City Zoo
PREPARATION AND CARE DURING PREGNANCY

- TK’s History
- Ultrasound Training
- Maternal Training
- Other Husbandry Considerations
TK’s History

- Dam reared
- 23 year old female at the time of pregnancy
- Two previous infants (2003 & 2006) both required human intervention
- Training issues – trusting keepers, disinterest in sessions, concept of training
ULTRASOUND TRAINING

- Desensitization – gel, probe, and animal health staff
- “Present” behavior
- Worked up to 5 to 10 minute holds
- Overall 14 sessions completed
MATERNAL TRAINING

- Get the baby
- Show
- Other
- Take
- Give

- Feed the baby
- Bottle
- Nurse
- Pump
OTHER HUSBANDRY CONSIDERATIONS

• Altered diet
• Set up overnight cameras
• Housed in a heavily bedded stall
• Separated TK from Berani about 10 – 12 weeks before birth
  • Minimize TK’s stress in latter stages of pregnancy
  • Keep both orangutans from associating separation with the infant
  • Improve TK’s focus on her training
OTHER HUSBANDRY CONSIDERATIONS

- Obtained consistent weights of TK
HAND REARING

- Separation from birth mother
- Plan for 24 hour care
- Exercise program
- Obtaining daily weights
- Feedings
- Hernia Surgeries
- Separation training from caregivers
SEPARATION FROM BIRTH MOTHER

- Initially were prepared to wait 72 hours for maternal instincts to kick in but had to remove Kalijon after 30 hours
- Attempts at maternal training failed
- Anesthetized TK and allowed Kalijon to receive colostrum
- Made decision to temporarily hand rear Kalijon
Plan for 24 hour care

- No specific deadlines to maintain flexibility
- Human caregivers included a staff of about 35 people
- Wore brown fuzzy vests at all times
- Diapers were never used
- Kalijon stayed in the orangutan building at all times
- Constant body contact 24 hours a day (no incubator)
ORANG FACILITY

OUTSIDE EXHIBIT

INDOOR EXHIBIT

NURSERY

KITCHEN

DAYTIME:
less than 35° - lock in
36-45 - access
46 and up - lock out
EXERCISE PROGRAM

- Started at 3 weeks old
- 5 minute sessions about 4 times a day
- Constructed a mini jungle gym
OBTAINING DAILY WEIGHTS

- Weighed at 3:00 pm every day
- Transferred Kalijon onto a stuffed orangutan doll in order to obtain an accurate weight
FEEDINGS

- Used Similac formula and adjusted proportions of dilutions to help with digestive issues

<table>
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<tr>
<th>Date</th>
<th>Feeding Details</th>
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<tr>
<td>25-Apr</td>
<td>full strength Similac with no iron</td>
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<td>diluted every other feeding by 50%</td>
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<td>17-May</td>
<td>diluted every third feeding by 50%</td>
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<td>20-May</td>
<td>changed the diluted feeding to similac with iron</td>
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<td>2 feedings full strength with low iron, 1 feeding full strength with iron</td>
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<td>16-Jun</td>
<td>1 feeding full strength with low iron, 1 feeding full strength with iron</td>
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<tr>
<td>22-Jun</td>
<td>all feedings with 1 1/2 scoops of Similac with iron and 1/2 scoop of Similac</td>
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<td>with low iron (for a 120mL bottle)</td>
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<td>all feedings made with full strength similac with iron</td>
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Feedings

- Up to 7 weeks old, Kalijon was fed whenever she was hungry and then a set schedule was put into place

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FEEDINGS

- Total formula intake was always recorded for each feeding
- Amount of formula was increased while number of feedings were decreased until Kalijon was weaned
FEEDINGS

- 2 chances per feeding
- Utilized a small bell
- Constructed a portable mesh station
- Offered solid fruits at 3 months old
- Carrots were used as teething rings
Hernia Surgeries

- Kalijon had to undergo two different hernia surgeries

- After each surgery mobility was kept limited and no exercises were done for about a week and a half

- Hernia surgeries postponed her re-introduction back to orangutans by one month
**SEPARATION TRAINING FROM CAREGIVERS**

- Goal was to get Kalijon ready for introduction to an orangutan and away from her human caregivers.

- Initial plan was too drastic and stressful for Kalijon.

- Gradual separation technique was successful.
SURROGATE DECISION

- Husbandry attempts to increase a bond
  - Visual Contact
  - Used food rewards
  - Encouragement

- Decided not to return Kalijon to TK
  - Disinterest in Kalijon
  - Progressively Aggressive

- Decided surrogate was best option
SURROGATE MOM

- Choosing Jill
  - Strong interest
  - 3 previous infants
  - Bright, cooperative, and good trainer

- Preparing Jill for being a surrogate
  - Separated Jill from cagemates
  - Started on a training program
  - Housed next to the nursery stall
  - Made all feedings visible to Jill
  - Encouraged interactions
INTRODUCTION

- **Set up**
  - Used nursery stall
  - Bedded heavily
  - Used furry vests as transfers

- **Method of introduction**
  - Utilized Kalijon’s separation training
  - Shifted Jill into nursery stall
  - Utilized Jill’s surrogate training to *get the baby*
  - Keepers left them alone to bond

- **Kalijon and Jill were bonded within 24 hours**
  - Discontinued overnight observations
  - Jill began carrying Kalijon full time
  - At 48 hours, no more interest in human caregivers
INTRODUCTION

- Problems and solutions

  - Kalijon climbed to the top of the mesh and could not climb down

  - Utilized Jill’s surrogate training and placed boards on the high mesh of the nursery stall
CONTINUED CARE

- Bottle feedings
- Offering of solid foods
- Smaller cut produce diet
- Used mini and lemur sized biscuits
- Addition of children’s multivitamin
CONTINUOUS CARE

- Secondary Introductions

  - 5 ½ months: introduced Josie (Jill’s 7 yr. old daughter) *Unsuccessful*

  - 13 months: introduced Rufus (21 yr. old adult male) *Successful*

  - 14 months: reintroduced Josie (Jill’s 7 yr. old daughter) *Successful*
CONCLUSION

- Factors that contributed to successful care of Kalijon
  - Birthing Plan
  - Multiple people as caregivers
  - Staying in the orangutan building
  - Having Jill for a surrogate mother
  - Never setting deadlines
ACKNOWLEDGMENTS

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