

# NAT

## Naturalistic Action Test

### Scoring sheet: Comprehensive Error Score

### Subject and test details

Name

Date of birth

Age

Gender

Male  Female

Today's date

Diagnosis

#### Notes

- You may photocopy this scoring sheet.
- CES coding must be completed by referring to a video film record of the subject's performance.

### Score summary

Error type	Number of errors					Total	Standardized Error Rate
	Toast	Coffee	Present	Lunchbox	Schoolbag		
Step omission	<input type="checkbox"/> /5	<input type="checkbox"/> /3	<input type="checkbox"/> /7	<input type="checkbox"/> /12	<input type="checkbox"/> /8	<input type="checkbox"/> /35 x 100 =	<input type="checkbox"/>
Anticipation/omission	<input type="checkbox"/> /7	<input type="checkbox"/> /2	<input type="checkbox"/> /7	<input type="checkbox"/> /11	<input type="checkbox"/> /6	<input type="checkbox"/> /33 x 100 =	<input type="checkbox"/>
Perseveration	<input type="checkbox"/> /5	<input type="checkbox"/> /2	<input type="checkbox"/> /2	<input type="checkbox"/> /7		<input type="checkbox"/> /16 x 100 =	<input type="checkbox"/>
Reversal	<input type="checkbox"/> /5	<input type="checkbox"/> /1	<input type="checkbox"/> /6	<input type="checkbox"/> /4	<input type="checkbox"/> /1	<input type="checkbox"/> /17 x 100 =	<input type="checkbox"/>
Substitution	<input type="checkbox"/> /4	<input type="checkbox"/> /4	<input type="checkbox"/> /6	<input type="checkbox"/> /10	<input type="checkbox"/> /3	<input type="checkbox"/> /27 x 100 =	<input type="checkbox"/>
Gesture	<input type="checkbox"/> /4	<input type="checkbox"/> /3	<input type="checkbox"/> /4	<input type="checkbox"/> /5		<input type="checkbox"/> /16 x 100 =	<input type="checkbox"/>
Spatial estimation			<input type="checkbox"/> /1	<input type="checkbox"/> /3		<input type="checkbox"/> /4 x 100 =	<input type="checkbox"/>
Tool/implement omission	<input type="checkbox"/> /3	<input type="checkbox"/> /3	<input type="checkbox"/> /1	<input type="checkbox"/> /3		<input type="checkbox"/> /10 x 100 =	<input type="checkbox"/>
Action addition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> total =	<input type="checkbox"/>
Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> total =	<input type="checkbox"/>

### Error definitions

#### Step omission

This category refers mostly to isolated step omissions that come at the end of sequence or when a longer sequence is omitted. In the latter case (e.g., omission of an entire subtask), multiple step omissions are coded.

#### Anticipation/omission

This category is used mostly for omissions that come in the middle of a strong sequence, where an upcoming step is performed in advance of an intervening one. The error stands whether or not the omitted step is eventually performed.

#### Perseveration

Performs an act for an extended period of time (e.g., stirring); duplicates a step or materials involved (e.g., two slices of bread for toast task); iterates repetitively (e.g., taping package).

#### Reversal

Performs steps or subtasks in reverse order.

#### Substitution

Substitutes a related object (usually a designated distractor) for the target object. Bizarre substitutions are coded as action additions, rather than substitutions.

#### Gesture

Uses correct object but with wrong gesture; mis-orientes object relative to the hand or to another (reference) object.

#### Spatial estimation

Grossly mis-estimates the quantity of material needed to cover, wrap, etc.

#### Tool/implement omission

Performs action without tool/implement.

#### Action addition

Performs an action not readily interpretable as a step in the task or as one of the other error categories (e.g., object substitution). Includes utilization behavior (both typical and atypical object use) and off-task behaviors which interrupt the flow of the task. (Note: 'Other task' behaviors such as tying shoes, cleaning up, etc. are not coded as errors.)

#### Quality

Too much, too little, or inexact performance.

# Task 1: Toast and Coffee

Task task	Occurrences
<b>Step Omission</b>	
Toast bread: Omit remove bread slice	<input type="checkbox"/>
Omit put bread into toaster	<input type="checkbox"/>
Omit turn toaster on	<input type="checkbox"/>
Apply butter: Omit apply butter	<input type="checkbox"/>
Apply jelly/jam: Omit apply jelly	<input type="checkbox"/>
<b>Anticipation/omission</b>	
Toast bread: Attempt bread out without open bread bag	<input type="checkbox"/>
Toaster on without bread in	<input type="checkbox"/>
Apply butter: Attempt butter on without open dish	<input type="checkbox"/>
Butter on without toast bread	<input type="checkbox"/>
Apply jelly/jam: Attempt jelly on without open jar	<input type="checkbox"/>
Jelly on without butter on	<input type="checkbox"/>
Jelly on without toast bread	<input type="checkbox"/>
<b>Perseveration</b>	
Toast bread: Extract more than one piece of bread	<input type="checkbox"/>
Toast more than 1 slice of bread	<input type="checkbox"/>
Operate toaster repeatedly	<input type="checkbox"/>
Apply butter: Apply butter perseveratively	<input type="checkbox"/>
Apply jelly/jam: Apply jelly perseveratively	<input type="checkbox"/>
<b>Reversal</b>	
Toast bread: Toaster on, then bread in	<input type="checkbox"/>
Bread out, then toaster on	<input type="checkbox"/>
Apply butter: Apply butter, then toast bread	<input type="checkbox"/>
Apply jelly/jam: Apply jelly, then butter	<input type="checkbox"/>
Apply jelly, then toast bread	<input type="checkbox"/>
<b>Substitution</b>	
Apply butter: Butter into mug (target=toast)	<input type="checkbox"/>
Spread butter with spoon (t=knife)	<input type="checkbox"/>
Apply jelly/jam: Jelly into mug (t=toast)	<input type="checkbox"/>
Spread jelly with spoon (t=knife)	<input type="checkbox"/>
<b>Gesture</b>	
Apply butter: Grasp knife incorrectly	<input type="checkbox"/>
Mis-orient knife with respect to butter/bread/hand	<input type="checkbox"/>
Apply jelly/jam: Grasp knife incorrectly	<input type="checkbox"/>
Mis-orient knife with respect to jelly/jam/bread/hand	<input type="checkbox"/>
<b>Tool/implement omission</b>	
Apply butter: Apply butter with finger	<input type="checkbox"/>
Apply jelly/jam: Apply jelly with finger	<input type="checkbox"/>
Pour jelly	<input type="checkbox"/>

## Coffee task

Step Omission	Occurrences
Coffee: Omit add coffee	<input type="checkbox"/>
Sugar: Omit add sugar	<input type="checkbox"/>
Cream: Omit add cream	<input type="checkbox"/>
<b>Anticipation/omission</b>	
Grinds: Add grinds without open coffee jar	<input type="checkbox"/>
Stir mug without add grinds	<input type="checkbox"/>
<b>Perseveration</b>	
Coffee: Add grinds perseveratively	<input type="checkbox"/>
Stir perseveratively	<input type="checkbox"/>
<b>Reversal</b>	
Coffee: Stir mug, then add grinds	<input type="checkbox"/>
<b>Substitution</b>	
Coffee: Coffee into (sugar bowl, pitcher/jug, toast) (t=mug)	<input type="checkbox"/>
Stir mug with knife (t=spoon)	<input type="checkbox"/>
Sugar: Sugar into (sugar bowl, pitcher/jug, toast) (t=mug)	<input type="checkbox"/>
Cream/milk: Cream into (sugar bowl, pitcher/jug, toast) (t=mug)	<input type="checkbox"/>
<b>Gesture</b>	
Coffee: Pour from spoon prematurely (before reaching mug)	<input type="checkbox"/>
Cream/milk: Pour from side, rather than spout, of pitcher	<input type="checkbox"/>
Pour from pitcher prematurely (before reaching mug)	<input type="checkbox"/>
<b>Tool/implement omission</b>	
Coffee: Pour grinds from jar	<input type="checkbox"/>
Coffee: Stir mug with finger	<input type="checkbox"/>
Sugar: Pour sugar from jar	<input type="checkbox"/>
<b>Action addition</b>	
<input type="text"/>	<input type="checkbox"/>
<b>Quality (examples)</b>	
Too much coffee (> 2 spoons)	<input type="checkbox"/>
Too much sugar (> 4 spoons)	<input type="checkbox"/>
Too much cream/milk (overflows)	<input type="checkbox"/>
<input type="text"/>	<input type="checkbox"/>

## Task 2: Present

Present task	Occurrences
<b>Step Omission</b>	
Prepare box: Omit put gift into box	<input type="checkbox"/>
Omit close box lid	<input type="checkbox"/>
Wrap present: Omit cut wrapping paper	<input type="checkbox"/>
Omit apply paper around box	<input type="checkbox"/>
Omit tape seam	<input type="checkbox"/>
Add bow: Omit remove bow backing	<input type="checkbox"/>
Omit apply bow	<input type="checkbox"/>
<b>Anticipation/omission</b>	
Prepare box: Close flaps without gift into box	<input type="checkbox"/>
Close box lid without inserting flaps	<input type="checkbox"/>
Wrap present: Paper around box without closing lid	<input type="checkbox"/>
Tape paper without tear tape	<input type="checkbox"/>
Apply bow without remove backing	<input type="checkbox"/>
Apply bow without apply paper around box	<input type="checkbox"/>
Apply bow without tape seam	<input type="checkbox"/>

**Perseveration**

Wrap present: Apply paper perseveratively  
Apply tape perseveratively

**Reversal**

Prepare box: Close flap, then gift into box  
Close lid, then insert flaps  
Wrap present: Cut paper, then unroll  
Tape paper, then tear tape  
Add bow: Back off bow, then bow out of bag  
Bow on paper or box, then wrap gift

**Substitution**

Wrap present: Wrap with tissue paper (t=wrapping paper)  
Seal paper seam with bow (t=tape)  
Wrap with tissue paper; paper bag (t=wrapping paper)  
Seal paper seam with bow; el. tape, staples (t=tape)  
Gift into paper bag (t=box)  
Cut paper with snippers (t=scissors)

**Gesture**

Wrap present: Grasp scissors incorrectly  
Misorient scissors with respect to paper/hand/body  
Misorient paper with respect to box  
Add bow: Lick bow after removing bow back

**Spatial estimation**

Wrap present: Paper too small

**Tool/implement omission**

Wrap present: Rip paper (no scissors used)

**Action addition**

e.g. Fold wrapping paper  
Inappropriate use of bow  
Put wrapped gift into box

Four empty rectangular boxes for action addition examples.

**Quality (examples)**

Close box with tissue paper/gift protruding  
Cut too big a piece of paper  
Highly inept wrap

Four empty rectangular boxes for quality examples.

**Task 3: Lunchbox and Schoolbag**

**Lunchbox task**

**Step Omission**

**Occurrences**

Wrap & pack cookies/biscuits: Omit use cookies/biscuits  
Omit wrap cookies/biscuits  
Omit pack cookies/biscuits  
Make sandwich: Omit put bologna/cheese slices on bread  
Omit close/fold sandwich  
Wrap & pack sandwich: Omit wrap sandwich  
Omit pack sandwich  
Fill thermos: Omit fill thermos  
Seal & pack thermos: Omit seal with lid  
Omit seal with cap  
Omit pack thermos  
Close lunchbox: Omit close lunchbox

Vertical column of checkboxes corresponding to the items in the 'Step Omission' section.

**Anticipation/omission**

Wrap & pack cookies/biscuits: Pack without wrap  
Make sandwich: Extract bread without open bread bag  
Attempt knife into jar/butter tub without open jar/tub  
Close sandwich without apply bologna/cheese slices  
Wrap & pack sandwich: Pack without wrap sandwich  
Fill thermos: Attempt to pour juice without open juice jar  
Seal & pack thermos: Seal thermos with lid without fill thermos  
Apply thermos cap without apply lid  
Pack thermos without fill thermos (no lids on)  
Pack thermos without apply cap  
Close lunchbox: Close lunchbox prematurely

Vertical column of checkboxes corresponding to the items in the 'Anticipation/omission' section.

**Perseveration**

Wrap & pack cookies/biscuits: Tear foil perseveratively (for cookies/biscuits)  
Extract cookies/biscuits perseveratively  
Pack cookies/biscuits perseveratively  
Make sandwich: Extract bread from bag perseveratively  
Close/fold sandwich perseveratively  
Wrap & pack sandwich: Tear foil perseveratively (for sandwich)  
Wrap sandwich perseveratively

Vertical column of checkboxes corresponding to the items in the 'Perseveration' section.

**Reversal**

Wrap & pack cookies/biscuits: Cookies/biscuits on foil before tear foil  
Pack cookies/biscuits before wrap (wrap in lunchbox)  
Sandwich on foil before tear foil  
Pack sandwich before wrap sandwich (wrap in lunchbox)

Vertical column of checkboxes corresponding to the items in the 'Reversal' section.

**Substitution**

Wrap & pack cookies/biscuits: into paper towel (t=foil)  
Cookies/biscuits into lunchbox lid (t=lunchbox interior)  
Make sandwich: Wrong lid onto mustard jar/butter tub  
Wrap & pack sandwich: Wrap sandwich in paper towel (t=foil)  
Pack sandwich into lunchbox lid (t=lunchbox interior)  
Fill thermos: Pour juice into thermos cup (t=thermos)  
Seal & pack thermos: Put wrong lid on thermos  
Put wrong lid onto sealed thermos (t=cap)  
Pack juice bottle into lunchbox (t=thermos)  
Pack thermos into lunchbox lid (t=lunchbox interior)

Vertical column of checkboxes corresponding to the items in the 'Substitution' section.

**Gesture**

Make sandwich: Turn mustard cap back and forth to seal  
Grasp knife incorrectly  
Orient knife incorrectly with respect to body or bread  
Seal & pack thermos: Place lid with press rather than screw motion  
Turn thermos lid back and forth to seal

Vertical column of checkboxes corresponding to the items in the 'Gesture' section.

**Spatial estimation**

Wrap & pack cookies/biscuits: Foil too small  
Wrap & pack sandwich: Foil too small for sandwich  
Packing: Force lunchbox closed (items sticking up)

Vertical column of checkboxes corresponding to the items in the 'Spatial estimation' section.

**Tool/implement omission**

Make sandwich: Dip bread into mustard jar/butter tub  
Pour/spread mustard/butter onto bread  
Use finger with mustard/butter

Vertical column of checkboxes corresponding to the items in the 'Tool/implement omission' section.

**Action addition (examples)**

Flip bologna/cheese slice with knife  
Eat bologna/cheese slices  
Put juice bottle in lunchbox lid

Vertical column of checkboxes corresponding to the items in the 'Action addition' section.

- Wrap cookies/biscuits with sandwich
- Fold and crumple paper towel
- 
- 
- 
- 

- Quality**
- e.g. Too many cookies/biscuits (>8); not perseverative
  - Inadequate wrap of cookies/biscuits
  - Too much mustard/butter (grossly excessive)
  - Too many bologna/cheese slices (> six slices)
  - Inadequate wrap of sandwich
  - Too much juice (overflows)
  - 
  - 
  - 
  -

- Action addition (example)**
- Pack lunchbox in schoolbag
  - 
  - 
  - 
  -

- Quality**
- - 
  - 
  - 
  -

**Schoolbag task**

- Step Omission** **Occurrences**
- Binder: Omit insert paper
  - Omit pack binder
  - Pencil case: Omit fill pencil case
  - Omit pack pencil case
  - Markers etc.: Omit pack markers
  - Omit pack *all* of following: protractor, pencil sharpener, eraser, unpacked pens, pencils, ruler
  - Close: Omit zip school bag
  - Omit zip school bag pocket (required only if filled)

- Anticipation/omission**
- Binder: Insert paper without open rings
  - Close rings without insert paper
  - Pack without close rings
  - Pack without insert paper
  - Pencil case: Close pencil case without fill pencil case
  - Pack pencil case without close pencil case

- Reversal**
- Pencil case: Pack pencil case, then zip closed

- Substitution**
- Binder: Pack paper into lunchbox, pencil case, or marker case or drawer (t=binder or schoolbag)
  - Pencil case: Pack pencils into lunchbox, binder pocket or marker case, or drawer (t=pencil case)
  - Markers: Pack markers into LB or binder pocket or drawer (t=marker case)