Transcranial Current Stimulation (tCS) is a technique that allows for the stimulation of the brain from outside the head. Weak (5 mA or less) electric direct currents (tDCS) or alternating currents (tACS) will be applied to the head using skin electrodes (mostly large rubber/sponge pads). These weak currents can slightly increase or decrease the activity in the brain areas under the electrodes. If tCS is given for longer durations (e.g., 10-20 minutes) these effects can last for up to an hour after the stimulation. In the last decade tCS has been intensively studied and has become an important technique to investigate the function of certain brain regions. Because the effects of tCS are not directly visible, tCS is often combined with other techniques, for example behavioural tasks, neuroimaging techniques like MRI, or other non-invasive brain stimulation techniques like TMS. While you will not notice the brain stimulation itself, you might sometimes experience mild tingling, itching, or burning sensations on the skin under the electrodes.

Before the experiment you have to remove all metal objects from your head (hairpins, ear rings, etc.). To ensure good current flow, it is important that the resistance of the skin is sufficiently low. Therefore, the experimenter will thoroughly prepare parts of your skin using alcohol and abrasive gel before attaching the electrodes. Often the rubber electrodes will be wrapped in sponges that are soaked with saline solution and will be attached to your head with elastic straps (as in the left picture). Sometimes, the rubber electrodes will directly be attached to your skin with a sticky paste. After the experiment you can wash your hair to easily remove the remaining electrode paste. Shampoo, towels, and a hair-dryer are available (for hygienic reasons you are asked to bring your own comb if needed).
The experiment
The details of the experiment are specific for each study, but a few components are regularly used. Before the experiment you will be asked to fill in a consent form and a screening questionnaire about your health and other safety aspects of tCS. On the basis of your answers the investigator will decide whether you can participate in the experiment. Often the researcher will take ample time to determine the exact location of the electrodes and to adjust the intensity of the stimulation before the experiment starts. What exactly happens during the experiment itself differs from study to study. A description of this is provided in the study-specific information brochure.

Additional Information
The risk associated with participation can be considered as negligible. The researchers are well trained and the used equipment conforms to international safety standards. During the stimulation, you might experience mild tingling, itching, or burning sensations which usually disappear after a while. These sensations can be unpleasant and are experienced by some participants as mildly painful. In any case, the experimenter will make sure that the stimulation is fully tolerable for you at the beginning as well as throughout the experiment. The most common side effects are a transient mild headache which is short lasting and responds well to light painkillers like paracetamol, as well as a mild feeling of fatigue. In rare cases, nausea and vertigo have been reported.

You can NOT participate in a tCS experiment if one of the following applies:
1) You have or have had a serious head trauma or brain surgery
2) You have large or ferromagnetic metal parts in the head (except for a dental wire)
3) You have an active implant, such as a pacemaker, insulin pump, or neurostimulator
4) You are pregnant or you think you are
5) You are younger than 18 years of age

If one of the above is applicable, please contact the investigator before the day of the experiment!
**SCREENING FORM tCS**  
Version 1.4

To be filled out completely by the PARTICIPANT prior to the experiment

<table>
<thead>
<tr>
<th>Please answer the following questions first</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are you younger than 18 years?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are you pregnant or do you think you are?</td>
<td></td>
<td></td>
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<tr>
<td>3. Have you ever had a head trauma that was diagnosed as a concussion or was associated with loss of consciousness?</td>
<td></td>
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<tr>
<td>4. Have you ever had brain surgery?</td>
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<tr>
<td>5. Do you have metal in the brain, skull or elsewhere in your body (for example, fragments, clips, etc)? If so, please specify the type of metal and location:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Do you have a cardiac pacemaker or intracardiac lines?</td>
<td></td>
<td></td>
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<tr>
<td>7. Do you have an implanted neurostimulator (for example, deep brain stimulation, epidural/subdural, vagus nerve stimulation)?</td>
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</tr>
<tr>
<td>8. Do you have a medication infusion device implanted?</td>
<td></td>
<td></td>
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<tr>
<td>9. Do you have a skin disease or skin allergy? If so, please specify:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you have answered "Yes" to one of the above questions, you CANNOT participate in the experiment.

<table>
<thead>
<tr>
<th>Please also answer the following questions</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Do you have cochlear implants?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Are you taking or did you take within the last two weeks any prescribed medications as part of treatment or research (excluding contraceptives)? If so, please specify:</td>
<td></td>
<td></td>
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<tr>
<td>12. Have you ever had a neurological or psychiatric disease? If so, please specify:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Have you ever had a fainting spell or syncope? If so, please specify the occasion(s):</td>
<td></td>
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</tr>
</tbody>
</table>

On the basis of the above answers and predetermined standards, the responsible researcher should inform you and determine whether participation is permitted in the current experiment.

* This form is applicable for research in healthy, competent adults (>18 year). The subject involved needs to provide his or her written consent personally.

P.T.O
To be filled out completely by the RESEARCHER after the experiment

Name: 

Function: 

Signature: 

Project number: 

Function: 

Signature: 

Payment: 

No payment

---------------------------------------------------------------------------------------------------------------------------

Reporting of events or findings:

Adverse Event

If YES:
- Date and time of occurrence: dd/mm/yyyy time
- Description:
- Severity: mild/ moderate/ serious*
- Relation to procedure: none/ unlikely /possible / likely / definite *
- Action taken:
- Abated/ follow up:
  - Follow Standard Operating procedure Adverse Event!

Incidental Finding

If YES:
- Date: dd/mm/yyyy

*make a choice
STUDY-SPECIFIC INFORMED CONSENT FORM
For participation in:*  
☐ MEG  ☐ EEG  ☐ MRI  ☐ NIRS  ☐ tCS  ☐ Behavioural  
*tick the appropriate box(es)

To be filled out by the PARTICIPANT prior to the start of the experiment:
I confirm that:
- I was satisfactorily informed about the study concerned both verbally and in writing by means of the general information brochure and additional study specific information brochure(s) (CMO2014/288; February 2016, version 1.4).
- I have had the opportunity to put forward questions regarding the study and that these questions have been answered satisfactorily.
- I have carefully considered my participation in the experiment.
- I participate of my own free will.
I agree that:
- My data will be acquired and stored for scientific purposes as mentioned in the general information brochure.
- Video and/or audio recordings may take place for scientific purposes.
- I will be informed by my home physician or the academic GP about any new information which is of medical relevance to me.
- I can be approached for a future study.
I understand that:
- I have the right to withdraw from the experiment at any time without having to give a reason.
- My privacy is protected according to Dutch law.
- My consent will be sought every time I participate in a new experiment.

__________________________________________________________________________
I give my consent to take part in this experiment:
Name:……………………………………….  Date of birth:……………………………………. (dd/mm/jj)
Signature:…………………………………  Date and place:……………………………………
I agree that my experimental and coded data for strict scientific-publication purposes will be shared with others: YES / NO*  
*encircle preference
__________________________________________________________________________

To be filled by the RESEARCHER prior to the start of the experiment:
The undersigned declares that the person named above has been informed both in writing and in person about the experiment. He/she guarantees subjects’ privacy protection according to Dutch law.
Name:……………………………………….  Project code:……………………………………
SONA title of the study:…………………………………………………………………………
Signature:…………………………………  Date (dd/mm/yyyy):……………………………

CMO2014/288; February 2016, version 1.4