An Eye-Roll Test for Hypnotizability

HERBERT SPIEGEL, M.D.

Department of Psychiatry
College of Physicians and Surgeons
Columbia University

The ability to look upward on signal while closing the eyelids (Eye Roll Sign) correlates highly (73.9%) with hypnotic trance capacity as measured by the Hypnotic Induction Profile in 2000 consecutive psychotherapy cases. In practical clinical terms this implies that in about five seconds the Eye Roll (ER) sign predicts hypnotizability in three out of four cases. Further, the higher the roll (0-4 scale), the higher is the trance capacity. This offers a quick, subtle, clinical way to ascertain whether or not hypnosis can have a probable role as an adjunct in the various psychotherapeutic strategies.

Technic and data are presented.

In the course of informal clinical observation over the years, one phenomena seemed to emerge with striking regularity. Those subjects who turned out to be deeply hypnotizable had impressive capacity to roll their eyes upward. Extra-ocular eye movements seemed more mobile and expressive. In contrast, those patients who turned out to be non-hypnotizable, did not in general, show this mobile extra-ocular movement.

After informal testing over a two-year period showed an apparent correlation, a more systematic study ensued.

This is a report of 2000 consecutive cases from October 1968 to June 1970 in which the same trance induction procedure was used by the examiner. Usually, one or more other physicians were present during the test procedure. In all cases the induction was done in the clinical context as preparation for a psychotherapeutic procedure. All patients had clearly specific goals for which the hypnosis was being used. In no instance was the hypnotic induction done as an experiment to simply study the phenomenon of hypnosis itself, thereby differentiating these data from customary experimental data about hypnosis.

The trance state was graded on a 0-5 scale by means of a 10 minute Hypnotic Induction Profile procedure which is reported in detail elsewhere (Spiegel, 1970).

The Profile measures and correlates the pattern of neurophysiological response to signals for eye movements, arm levitation, post-hypnotic subjective sensations, post-hypnotic motor compliance, ability to report with candor, cut-off compliance and the degree of amnesia to the cut-off signal.

Definition of Hypnosis

Hypnosis is not sleep. Whatever sleep is, hypnosis is not (Anand et al., 1961). In an operational sense, hypnosis is a response to a signal from another or to an inner signal, which activates a capacity for a shift of awareness in the subject and permits a more intensive concentration upon a designated goal direction. This shift of attention is constantly sensitive to and responsive to

---

1 Presented to the Thirteenth Annual Scientific Meeting of the American Society for Clinical Hypnosis, Miami Beach, Florida, 1970.
cues from the hypnotist or the subject himself if properly trained.

More succinctly, hypnosis is a dynamic state of attentive, responsive concentration, even to the point of dissociation.

**TEST PROCEDURE**

The patient is asked to:
1. "Hold your head looking straight forward;
2. While holding your head in that position, look upward toward your eyebrows—now toward the top of your head (Up-Gaze);
3. While continuing to look upward, at the same time close your eyelids slowly (Roll) (Figure 1);

<table>
<thead>
<tr>
<th>EYE-ROLL TEST FOR HYPNOTIZABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UP-GAZE</strong></td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

![Fig. 1. Eye-roll test for hypnotizability.](image)

<table>
<thead>
<tr>
<th>EYE-ROLL TEST (SQUINT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

![Fig. 2. Eye-roll test (squint).](image)

**TABLE 1**

**Hypnotic Induction Profile**

<table>
<thead>
<tr>
<th>2000 Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade*</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Correlate with Eye Roll</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4-5</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>No Correlation with Eye Roll</td>
</tr>
<tr>
<td>510</td>
</tr>
<tr>
<td>12</td>
</tr>
</tbody>
</table>

Total cases: 2002, 99.7%

* Grades 1, 2, 3, 4-5, and 0 correlate with Eye Roll. Decrement & Erratic do not.
** Rounding error.

4. Now, open your eyes and let your eyes come back into focus."

The Up-Gaze and Roll are scored on a 0–4 scale.

The amount of sclera visible between the lower eyelid and the lower edge of the cornea is the most practical measurement. A secondary measurement is upward movement of the cornea under the upper eyelid. Sometimes, during the Up-Gaze or Roll, an internal squint occurs. The degree varies on a 1–3 scale (Figure 2). The Squint score adds to the significance of the Up-Gaze and Roll score. (For example, an Up-Gaze 2 with a Roll 1 and Squint 2 is operationally equivalent to a Roll 3, or, Up-Grade 2, Roll 3.) This is a clinical "soft focus" observation which does not require discrete linear quantifications with optical measurement instruments. The entire procedure can be done in about five seconds.

**RESULTS (Table 1)**

1. Trance capacity was measured in terms of the Hypnotic Induction Profile which can be elicited in 5 to 10 minutes.
2. In about 75% of the 2000 consecutive cases, a five second examination of the Eye
Roll Sign, graded from 0–4, accurately predicted hypnotic trance capacity (Figure 3).

3. In 1 out of 4 cases, the positive Eye Roll Sign was misleading (Figure 3).

4. The Hypnotic Induction Profile filtered out these false positive eye signs.

5. Ninety-nine percent of the hypnotizable group showed a positive Eye Roll Sign, i.e., scored above zero. Less than 1 percent of the hypnotizable group had a grade 0 Roll.

6. Using the above measurements, in a series of 2000 consecutive psychotherapy cases:
   a. About seven out of ten patients were hypnotizable to some degree.
   b. About one out of eight were extremely hypnotizable.

THEORETICAL SPECULATIONS

1. The remarkable correlation between the Eye Roll and hypnotizability suggests that trance capacity is either genetically determined or learned so early in life that something akin to an imprint level that the circuitry is essentially physiological or structural rather than psychological (Spiegel, 1965).

2. Now that we know something about the nature of sleep, it is clear that whatever sleep is, hypnosis is not. Hypnosis is characterized by a contraction of peripheral awareness and an increase in focal attention. The essence of hypnosis is related to the ability to concentrate in an attentive, responsive manner, even to the point of dissociation. When the sleep concept of hypnosis was abandoned, this test discovery followed.

3. It is generally observed that when a person wants to concentrate intensely without interference, one postural stance is to look upward. Sometimes this is followed by eye closure and is consistent with the need to reduce peripheral awareness to facilitate focal attention. The Eye Roll test is an extension of this.

HYPNOTIZABILITY DISTRIBUTION

2000 CONSECUTIVE THERAPY CASES

Gr. 1
Gr. 2
Gr. 3
Gr. 4–5
Neg. Profile
Decrement and erratic profile
Misc. 1%

Fig. 3. Hypnotizability distribution.


5. Vertical up-gaze is associated with alpha rhythm. Vertical movement also has bilateral representation; thus, more integration, in contrast to horizontal eye movement which has unilateral representation. Mentation defects involve bilateral cerebrums (Mulholland & Evans, 1966).

6. This Eye Roll test seems to tap a capacity for experiencing a mode which seems related to Primary Process in the psychoanalytic sense. Yet it is an organized aspect of what can be an overall chaotic clinical mosaic.

7. Understanding hypnotic phenomena requires an understanding of the physiological factors in memory, concentration and amnesia. Until we know these, data like this eye-roll correlation contribute to our peripheral knowledge.

CONCLUSIONS AND IMPLICATIONS

1. Quick appraisals for hypnotizability are now feasible. In 5 to 10 seconds a highly probable estimation can be made. The degree of Eye Roll roughly correlates with hypnotizability. In 5–10 minutes the Hypnotic Induction Profile measurement can provide the clinician an opportunity to grade this capacity with sharper focus and more certainty.
2. In the past, a serious deterrent for using hypnosis in therapy was the claim that it took too much time to determine with whom it could be used. The Eye Roll sign and the Hypnotic Induction Profile not only answer that complaint, but they open the way to use hypnosis more frequently to accelerate primary treatment strategies.

REFERENCES

Anand, B. K., China, G. S., & Sing, B. Some aspects of electroencephalographic studies in Yogis.


